

Intro

A Survey of Science Departments in Small Liberal Arts Institutions Executed by Eckerd College Science Curriculum Review Committee Spring 2007

This document contains the raw data and the weighted data. Overall there were 315 faculty members from 63 institutions. The response rate was 27%. At each institution three of every discipline were chosen to take part in the survey. The student aide was asked to choose an assistant professor, an associate professor, and a full professor whenever possible. Overall 68 institutions were asked but some schools have strong spam blockers!

The raw data is the response of the 315 individuals. The free form responses of questions 12, 13, 20-24 have been edited for redundant ideas

The weighted data represents "units" from which later correlations were done. It was assumed that in institution questions everyone reporting from that institution would answer roughly the same so their answers were combined and averaged to represent the voice of one institution, similarly this was done for disciplines within the institutions. We heard from 63 unique institutions and from 204 disciplines within those institutions (an average of 3.25 disciplines reporting per institution)

The institution questions were: 3, 12-21

The discipline questions were 4-11

Some of the free responses have been edited slightly to try to keep the institutions and participant anonymous. Overall I thank you for your candor.

All queries can go to [Steve Weppner \(weppnesp@eckerd.edu\)](mailto:weppnesp@eckerd.edu)

A second document will contain some further analysis showing correlations between the questions and institutional endowment and *US News and World Report* rankings.

At what institution are you currently a professor?	
answer options	Response Count
Agnes Scott College	2
Allegheny College	5
Austin College	4
Beloit College	6
Bard College	4
Barnard College	2
Bates College	3
Birmingham-Southern College	5
Bowdoin College	6
Carleton College	9
Centenary College of Louisiana	4
Centre College	6
Claremont McKenna -Pitzer -Scripps	2
Coastal Carolina University	5
Coe College	2
Colby College	8
College of Charleston	4
College of Wooster	8
Connecticut College	3
Davidson College	5
Dickinson College	3
Earlham College	1
Eckerd College	5
Elon University	4
Emory & Henry College	4
Franklin & Marshall College	6
Furman University	4
Goucher College	12
Grinnell College	4
Guilford College	7
Hamilton College	6
Hampden-Sydney College	4
Hampshire College	2
Hiram College	6
Hope College	6
Juniata College	3

Kalamazoo College	7
Kenyon College	3
Knox College	10
Lynchburg College	7
Marlboro College	1
McDaniel College	3
Middlebury College	4
Mills College	6
Millsaps College	1
Mount Union College	4
Muhlenberg College	6
New College of Florida	4
Oberlin College	9
Oglethorpe University	2
Presbyterian College	2
Reed College	5
Rhodes College	4
Rollins College	5
St. Mary's College of Maryland	5
St. Olaf College	3
Smith College	5
Spelman College	6
Tulane University	4
University of the South	8
Ursinus College	9
Wheaton College	7
Whitman College	7
Wofford College	3
<i>answered question</i>	280
<i>skipped question</i>	3

In what department are you a faculty member?

answer options	Response Percent	Response Count	Dept. weighted response
Biology	21.27%	67	35
Biochemistry	0.63%	2	5
Chemistry	23.81%	75	40
Computer Science	8.89%	28	24
Environmental Studies/Science	1.59%	5	5
Geology	4.44%	14	13

Marine Science	1.59%	5	2
Mathematics	14.29%	45	36
Neuroscience	0.32%	1	4
Physics	14.60%	46	38
Other (please specify)	8.57%	27	2
<i>answered question</i>		315	202
<i>skipped question</i>		0	

Biologists and chemists responded in the highest percentages to our survey even though the same number of surveys were sent to math and physics. So note the weighted responses gives appropriately the same weighting to biology, physics, chemistry, and mathematics. The “others” were read and usually added by hand to another discipline.

What is the approximate total size of the student body at your school?

answer options	Response Percent	Response Count	Inst. weighted response
under 1000	6.37%	20	5
1001-1500	35.03%	110	21
1501-2000	31.53%	99	18
2000-2500	13.06%	41	13
above 2500	14.01%	44	6
<i>answered question</i>		314	63
<i>skipped question</i>		1	

For this and the following question, we are trying to determine both the size of your major and how the number of majors changes from freshman to senior years.

Approximately how many students declare/express interest in your department's major during their freshman year?

answer options	Response Percent	Response Count	Dept. weighted response
less than 5	22.22%	68	36
6-10	21.57%	66	60
11-15	14.71%	45	31
16-25	15.03%	46	33
26-50	12.09%	37	18
51-100	8.82%	27	15
greater than 100	5.56%	17	8
<i>answered question</i>		306	201
<i>skipped question</i>		9	

Approximately how many students graduate from your department each year?			
answer options	Response Percent	Response Count	Dept. weighted response
less than 5	10.65%	33	24
6-10	31.61%	98	71
11-15	17.10%	53	32
16-25	19.68%	61	43
26-50	14.19%	44	21
51-100	6.77%	21	12
greater than 100	0.00%	0	0
<i>answered question</i>		310	203
<i>skipped question</i>		5	
How many full-time tenure track faculty are in your department?			
answer options	Response Percent	Response Count	Dept. weighted response
less than 5	37.90%	119	83
6-10	49.68%	156	100
11-15	10.19%	32	15
greater than 15	2.23%	7	5
<i>answered question</i>		314	203
<i>skipped question</i>		1	
How many secretaries/assistants are in your department?			
answer options	Response Percent	Response Count	Dept. weighted response
none	33.12%	104	64
1	57.01%	179	124
2	7.96%	25	12
3	1.27%	4	3
greater than 3	0.64%	2	1
<i>answered question</i>		314	204
<i>skipped question</i>		1	

This was a flawed question as many pointed out, many small places share resources and this was not an option

How many full time adjuncts/lecturers/visitors in your department?			
answer options	Response Percent	Response Count	Dept. weighted response
none	41.40%	130	83
1	32.80%	103	77
2-3	21.66%	68	34
4-6	3.50%	11	9
greater than 6	0.64%	2	1
<i>answered question</i>		314	204
<i>skipped question</i>			1

How many technical staff are in your department?			
answer options	Response Percent	Response Count	Dept. weighted response
none	38.66%	121	79
1	42.17%	132	96
2-3	16.29%	51	21
4-6	1.92%	6	6
greater than 6	0.96%	3	1
<i>answered question</i>		313	203
<i>skipped question</i>			2

This was a flawed question as many pointed out, many small places share resources and this was not an option

What is the standard course load per year for tenure-track faculty?			
answer options	Response Percent	Response Count	Inst. weighted response
less than 4	5.43%	17	1
4	15.34%	48	10
5	30.03%	94	26
6	37.06%	116	19
7	5.75%	18	5
8	5.11%	16	2
more than 8	1.28%	4	0
<i>answered question</i>		313	63
<i>skipped question</i>		2	

The mean (weighted and unweighted) was about a 5.4 course load. This questions shows a facet about the weighted average. Four people responded that they teach more than eight classes however when weighted the number goes to zero because others from the same institution conflicted with their response. The validity of their response is not questioned, many stated that not all disciplines are treated the same at their institution, however because I considered this predominately an “institution-wide question” their responses were averaged with everyone else at their institution. Below, for comparison is the discipline weighted answers, again similar results.

What is the standard course load per year for tenure-track faculty?			
answer options	Response Percent	Response Count	Discipline weighted response
less than 4	5.43%	17	9
4	15.34%	48	35
5	30.03%	94	65
6	37.06%	116	66
7	5.75%	18	15
8	5.11%	16	12
more than 8	1.28%	4	0
<i>answered question</i>		313	202
<i>skipped question</i>		2	

What is the average size of your introductory courses in your major?			
answer options	Response Percent	Response Count	Dept. weighted response
less than 15	3.18%	10	7
16-30	42.68%	134	105
31-50	31.85%	100	51
51-100	17.52%	55	34
greater than 100	4.78%	15	7
<i>answered question</i>		314	204
<i>skipped question</i>			1

How much course credit is given to tenure-track faculty for laboratories			
answer options	Response Percent	Response Count	Inst. weighted response
1/2 course	33.44%	102	26
1 course	28.85%	88	26
Other (please specify)	37.70%	115	0
<i>answered question</i>		305	52
<i>skipped question</i>			9

This is really a toss up because "other" is so large! About 10 institutions said the lab was included in the course, other options are listed below.

Non-science faculty at the college teach six courses per year; faculty in the sciences teach four courses because of the labs we also teach. Given that we each teach about four lab sections; about 1/2 course

It varies from none (math) to .5 or 1.

A point of great contention: it varies by department

None - labs are included in the 1 course credit per course

Zero

.25 for most labs .5 for a few

Labs are built into the courses

1/3 course

Varies by department; we lump labs and lectures together in a given course

1/2 if we teach; 1/4 if we have an assistant; none if a multiple lab in the same course

2 total- so 4 lecture courses+ 2 course release for labs, typically 4-5 lab sections taught/year
2/3 course

We go by what are called "involvements" - each faculty member does 4 involvements a sem.

A lecture or a lab are each one involvement, so a normal load is two courses with labs per sem.

0.1 course/hour of lab, 0.5 course to direct all lab sections of one course

1 for the first lab, 1/2 for all other labs per academic year

All biology classes have labs, so we teach 4 per year instead of 5 for other departments

1/2 course for first section, 1/4 course for additional sections.

We are expected to have 15 contact hours and a lab counts for 3 of those

0.5 or 0.75, depending on prep

Are there course releases for funded research?			
answer options	Response Percent	Response Count	Inst. weighted response
Yes	28.30%	88	14
No	56.91%	177	47
Other (please specify)	14.79%	46	
<i>answered question</i>		311	61
<i>skipped question</i>		3	

OTHER

We have a wide variety of internally-funded opportunities for special projects (e.g., interdisciplinary work, team teaching, heading a project, etc)

Yes, but you have to fund the replacement from your grant

We rotate a 1 course release among 3 faculty

There are a couple of endowed professorships awarded to faculty who supervise research.

Yes, but faculty should not be allowed to buy out of teaching

All research active faculty in my dept teach one less course per semester

We are discouraged from including course releases in funding proposals; however, if in grant,

Not regular course releases, but one can apply to the Dean for a course release

Is it common to have a course release for research?			
answer options	Response Percent	Response Count	Inst. weighted response
Yes	8.97%	28	2
No	84.94%	265	60
Not Applicable	6.09%	19	1
<i>answered question</i>		312	61
<i>skipped question</i>		2	

How much internal funds are available for each tenure-track faculty member for research and travel per year?			
answer options	Response Percent	Response Count	Inst. weighted response
none	0.65%	2	0
less than \$1000	30.00%	93	21
\$1000-\$3000	59.68%	185	40
greater than \$3000	9.68%	30	2
<i>answered question</i>		310	63
<i>skipped question</i>		5	

Is significant research with students recognized as a course for tenure-track faculty?			
answer options	Response Percent	Response Count	Inst. weighted response
Yes	23.47%	73	6
No	76.53%	238	57
<i>answered question</i>		311	63
<i>skipped question</i>		3	

The reason the "yes" count is so low is that everyone from the institution had to answer yes to have it counted. The question could have been asked better.

Are supervising/monitoring multiple internships recognized as a course for tenure-track faculty?			
answer options	Response Percent	Response Count	Inst. weighted response
Yes	9.68%	30	1
No	90.32%	280	62
<i>answered question</i>		310	63
<i>skipped question</i>		5	

The reason the "yes" count is so low is that everyone from the institution had to answer yes to have it counted. The question could have been asked better.

What type of grant writing support does your institution have?			
answer options	Response Percent	Response Count	Inst. weighted response
none	11.82%	37	6
an individual or a few staff	86.26%	270	57
a large support staff	1.92%	6	0
<i>answered question</i>		313	63
<i>skipped question</i>		2	

Is research recognized as significant in annual reviews for tenure-track faculty?			
answer options	Response Percent	Response Count	Inst. weighted response
Yes	88.61%	280	53
No	2.85%	9	11
Other (please specify)	8.54%	24	0
<i>answered question</i>		313	64
<i>skipped question</i>		2	

OTHER

It varies drastically by department.

Yes, but a distant second to teaching quality, and when done with students

Yes, but teaching & service are more important.

It is changing. "Growth as a scholar" or "Professional Development" is defined very broadly (must be peer review pubs.)

Research is important, but the important metric is publications.

Yes, for the department-not clear at the college level.

We do not have annual reviews - Reviews occur in second and fifth year.

Research efforts are considered.

Students must conduct a research experience under a full-time tenure-track faculty mentor to graduate.

There is no teaching credit given to the mentor for this, but faculty are expected to be active.

It is well regarded and praised but does not figure significantly into annual reviews.

Our annual reviews are almost nonexistent. We have no performance-based compensation.

Once faculty have tenure, there is no reward-based incentive for good performance.

Maintaining scholarship, defined in many ways other than publications.

Supposedly, but everyone has a different idea about what is expected.

Is research recognized as important for promotion for tenure-track faculty?			
answer options	Response Percent	Response Count	Inst. weighted response
Yes	91.49%	290	57
No	3.19%	9	6
Other (please specify)	5.32%	15	0
<i>answered question</i>		314	63
<i>skipped question</i>		1	

To full professor, professional development is necessary

Yes, but grant support is considered more important than publications

Supposedly, but people get tenure without publications.

Is faculty research rewarded by awards/special recognition?			
answer options	Response Percent	Response Count	Inst. weighted response
Yes	54.29%	168	31
No	45.71%	144	32
<i>answered question</i>		312	63
<i>skipped question</i>		3	

If applicable, in what ways are researchers given special recognition?

answer options	Response Count
	148

Named chairs and a biennial recognition for scholarship

There is an annual reception for faculty grants and research, but I don't think any of the faculty see that as "special recognition".

One competitive monetary research award every 2 years.

Awards

Professors can present talks to community, be named in the faculty meeting for receiving big money grant, products of research (peer reviewed journals, books) published in annual notices.

Mention in regular institutional announcement.

Recognition at faculty meetings

Monetary prizes, announcements at faculty meetings, recognition at convocations

To get tenure and to be promoted. in addition, research projects with students, that lead to national or regional prizes for the students or joint papers with he faculty, are recognized in the College Weekly magazine

Only to the extent that students are involved.

Researchers might get their names in college publications, and there are two (competitive) sources of internal funding for winning research proposals.

\$1,000,000 Club-faculty with greater than 1M in funded research

One or two awards are given each year to faculty members for outstanding research.

Annual award.

There is one major prize given out in the spring, which depends on the totality of faculty work including not only research, but teaching and service. Verbal congratulations at faculty meetings are offered, but nothing else tangible

Their efforts are acknowledged publicly and praised by colleagues.

Announcements to school in meetings and by email; contributes towards merit bonuses and tenure

Merit awards of \$1000 for travel or other purposes.

A handful of bonuses per year are given to faculty members with extraordinary achievements in teaching, research or service

Paid leaves, merit increases, extra travel funds

Release time sometimes awarded.

Faculty research is part of the ratings given to faculty for merit raises.

Annual celebration for those who have published during the year

An annual event celebrating faculty accomplishments, press releases.

They can avoid heavy loads of committee service without significant effect during reviews for salary step increases.

Chairs rotating two-year "Centre Scholar" label "excellent" on annual evaluations (although this is private)

Competitive bonuses; an awards ceremony

Not public recognition. Merit pay is most often based on research.

Noted at faculty meetings, email.

Special congratulations from the president, notifications to other faculty, dinners, etc.

Faculty scholarship award given annually.

End of year bonus reward to few individuals.

Summer research grants up to \$3800- competitive application (pool is usually ~\$70,000) annual award for scholarly project (4 course release for one year - usual load is 6 courses.) Annual Class of 32 award for scholarly project (full year with no courses) annual award (\$3000) to recognize body of scholarly work by a junior faculty member (non-tenured)

Annual research prize given at graduation. Annual publication party.

The Vice President for Academic Affairs mentions grants and significant publications at faculty meetings. The College regularly publishes a list of faculty scholarship. Our PR office sometimes writes press releases for scholarship, and sometimes includes pieces in the College magazine. Scholarship is certainly a significant component of the merit score assigned to faculty, and merit scores are used in the determination of raises. (A committee of elected faculty assigns both merit scores and raises.)

There's a faculty achievement award at the end of each year, which, in part, depends on scholarly accomplishments. Merit raises are often given on the basis of publications.

Plays a role in promotion

Research alone is not the only factor but research and excellence in teaching are awarded through endowed professorships.

Recognition at a reception for significant published work, such as a book. Chaired positions are available for those who conduct ongoing, productive research. Appointment as a titled "Scholar" with a course relief can be a rare opportunity for a person undergoing research work. Sabbatical opportunities. And others.

Annual research award

School-wide and university-wide awards annually for top performers (2 or 3 superstars).

There are announcements about successes, but nothing more is done officially. Of course, success brings status and recognition, making it easier to get other things you want.

We have an award given every year, but alternating years for outstanding teaching and outstanding research.

There are annual laurel publications. An award is given for outstanding research annually. There are distinguished chairs in departments and groups of departments.

There's a cash award of several thousand dollars given each year.

One award to one faculty member (college-wide) per year.

No special recognition. We're a Lutheran college, we don't believe in recognizing achievement

Awards for research, merit pay increases.

None that I know of. Certainly their salaries do not benefit from significant research accomplishments.

Probably small additional amount in salary increase.

Endowed professorship

Significant research accomplishments or appointments are recognized, in part as part of College Relations and publicity for the college. There is a teaching award, but no research award.

A pat on the back.

None. Research activity and publication are required and expected. An annual award is given each year for "teaching and scholarship"- but those awards are generally regarded as political bullshit.

Indirect recognition: if the administration feels research-related activity is worthy of PR, then there may be a small local press release about it.

Recognized for merit in scholarship; includes a small monetary award.

Each year, several small grants are awarded for summer research and/or travel.

Researchers are not given special recognition though research is a requirement of tenure and promotion. Promotion from associate to full is much quicker for the active researcher. Several never attain full professor, primarily because of lack of research because outside reviews are required for scholarship in our procedure. However, researchers do their work on top of other responsibilities and work with research students is strongly encouraged.

Annual award by the Provost's and Dean's offices

1. Each year, at commencement, an award is given for outstanding scholarship. This award recognizes the faculty member best exemplifying the ideal of the scholar whose research efforts reflect and inspire excellence and enlighten teaching 2. Each year, the library hosts a "faculty publications" event at which all faculty publications and their authors are recognized.

Until recently, there was an annual research prize at the College. This prize has lapsed, but external honors and recognitions are announced and celebrated at faculty meetings, etc.

The faculty/staff bulletin will let you put your name in it when you publish or attend a meeting

Merit pay award - several hundred dollars over the basic annual salary increase

Dean's awards Sigma Xi awards 1-course release during the term Website press release for significant grants Listing of grants and publications at annual awards luncheon

The administration has taken all power from the faculty and now makes all decisions about endowed chair selection without faculty input. That is the only special recognition given

Work made public and used as recruiting/fund raising.

Every other year nominations are taken for a faculty member that has exhibited outstanding research. An award is given. (in intervening years the award is for teaching).

Mention in high places tenure and promotion

None - very hard to do research at our institution

Annual faculty research award given at commencement. Publication promo and party. Announcements at faculty meetings.

Prize for significant research in a given year (includes a small monetary amount)

Must show progress with reasonable periodic publication to receive merit points for research. Total merit points based on teaching (max 3--nearly impossible to get max), research (max 3--essentially impossible to get max) and service (max 2--only extraordinary time commitment gets 2)

Award at graduation mention in newsletters, etc.

Integrated award acknowledging excellent in teaching and research.

An annual scholarship celebration each year - recognizing published works.

News releases

Announced to faculty at large. Published in campus news letter which goes to all students and alumni.

There is an afternoon once a year for a recognition party for all faculty who receive grants. They serve tea and cookies.

Summer stipends and promotion consideration

Faculty Research grants and Faculty Awards for outstanding research (5 per year for entire faculty, \$5000).

Availability to apply for endowed chairs merit awards (very competitive)

Science division award for scholarship; merit raises related to scholarly productivity

Recipients of grants are recognized at a faculty recognition banquet. Publications are recognized at a divisional celebration.

Merit increases for publication or successful grant proposal competitive sabbaticals and awards

Required for promotions and tenure. Research has become incorporated into the college culture as the natural activity of a scholar.

Researchers are noted in an annual faculty-staff dinner in which a booklet listing faculty accomplishments appears. One faculty member from the entire campus is recognized for their productivity each year.

Annual science research award

I think this is an area in which my college is struggling a bit to find the right path. AC instituted start-up funds and really started stressing the importance of research for tenure and promotion within the last 10 years. I've been hired since then and sometimes feel that while the institution was clear in its goals to make research more important, it has not figured out the best way to support and recognize it. In particular, there has been contention from older faculty conceptualizing research as having nothing to do with students. Manifested either as a belief that if one is serious about research, he or she doesn't care about teaching (as if working with students on research isn't an incredible learning experience for them) or that scholarship done collaboratively with students doesn't count as much as scholarship done on one's own.

Grants exceeding 1 million dollars - you get in the Million Dollar club

College-wide award

Other than publicizing grant acquisition, none

College-wide and school of science annual monetary award

We have a campus-wide recognition ceremony for book publication, successful thesis defense, publication of papers, successful grant applications, etc. Professional development is one of four areas of evaluation for promotion and tenure.

Publications or other professional accomplishments are announced before the faculty and copies of books/articles are kept in the Dean's office. One researcher per year receives a special award and gives a public lectures on his/her research -- this individual has a course release in the semester in which the lecture is given.

The university presents three awards to faculty who distinguished themselves in (1) teaching, (2)scholarship including research and (3) a service to the institution.

Press releases, invitations to give college-wide seminars, merit pay

There is one professional achievement award at Commencement which recognizes a faculty member

A campus publication "Kudos" lists publications, grants funded and the like. Funded proposals are mentioned at faculty meetings

Issued publications are mentioned at faculty business meetings.

There are faculty recognition awards given annually to about 10 persons. These awards are based on outstanding work in any of the areas of teaching/service/research.

There is a specific faculty award given every year to a faculty member recognized as participating in peer level research as chosen by the 5 most previous award winners following open submission.

Research has its own rewards. The extensive load of "service" at our college receives relatively little recognition and counts less for promotion than publication.

Hands on applications of class materials. ALL 100 and 200 level astronomy students do research.

Mentioned in faculty meeting if the researcher informs the provost's office - usually more common for accomplishments of fine arts and English faculty.

There is an annual college-wide award for faculty scholarship.

Individual selected annually for small cash award

Publication awards

Mentioned in the faculty-staff newsletter, annual reception for published authors.

Annual reception given by academic dean -- it's a small token, really.

One-semester extension on sabbatical (normally limited to one semester at full pay after 6 years of teaching)

Merit raises and special awards (both monetary and special name recognition).

There are Divisional and College wide awards. Research is a major criteria for merit raises, sabbaticals, tenure & promotion, etc. Opportunity for internal or external grants paying summer salary.

Extra travel money, annual college-wide award.

Better chance for obtaining tenure and promotion. Slightly better salary raises. Slightly lower teaching load.

We are expected to do in, but in my experience there has been no strong support or recognition.

Recognition on campus website, campus research awards, professorships (for working with students in research), etc.

Pay raises, awards

Absolutely essential for tenure and/or promotion. Research productivity is given great weight in merit review decisions (every 3 years) as well.

Announcements at faculty meetings, all-college faculty recognition events.

One campus-wide award per year for faculty research. Mention in campus newsletter

Divisional awards for teaching, research and for service are given annually.

Once a year there is a reception to recognize the researchers.

Shameless self-promotion!

Award for Excellence in Scholarship, given annually to a deserving faculty member, includes \$500.00 taxable prize money.

None, other than mention in campus publications

College wide award

There is an award given each year for faculty scholarship. Grants received are publicized.

There are junior faculty awards for time off for research. Faculty development funds can be requested.

(1) Announcements of grants received and/or fellowships are made at each general faculty meeting. (2) Similarly, announcements are posted to the internal college newsletter. (3) In some instances, an announcement may be profiled on the college's initial webpage and in the alumni publication.

Often faculty research is highlighted prominently on the college's opening web page. Each year, the library highlights recent scholarship as well, and the president recognizes significant (i.e., large) research grants during faculty meetings.

One research award at commencement.

We are all expected to do research. In terms of workload, there is no special recognition. You can buy off teaching time from a research grant. If you get a publication or presentation at a conference, the administration announces it in some form.

An annual award is given to recognize a faculty member who has contributed significantly to scholarly work. Initiated an informal reception this year honoring scholarship by faculty.

There is an annual award for scholarship presented at Graduation (about \$1.5k).

Annual award given at a ceremony. Also various internal grants go to faculty who have applied (only marginally competitive--most folks get it)

Usually just being highlighted in community newsletters and alumni magazines.

Not very many ways... We have one award every other year that is given for research recognition on the entire campus. We also have some endowed chairs, but those tend to be given for political reasons rather than research recognition.

We do have several college wide faculty awards that are made annually that recognize research or teaching or service

A small minority (one for the entire NS division) is awarded a chair providing course release every third year.

Researchers may apply for a program with reduced teaching load for a given year.

Special internal grants, publicity,

Small salary incentives kudos in weekly bulletins

Mention at faculty meetings

College's prize, awarded for excellence in scholarship. There are a few grants per year available internally for \$5000.

Annual awards to a few selected faculty, higher merit raises

Faculty can apply for internal research awards, and receive funding for supplies and travel, etc.

I had a beer with the president. He invited all the people over, one afternoon, who had received an external grant that year.

Question 23

Overall in what ways do you think your institutions administration is creatively supportive of the unique demands of science within a liberal arts institution?

Our institution has a remarkable undergraduate research program, particularly in the sciences, but it has grown almost entirely out of faculty sweat. The institution simply doesn't have a lot of money to throw at such things.

Yes. Puts its money into facilities, teaching resources, research resources, and supports student research over the summer, etc.

Additional institutional funds can be allocated towards significant research projects on a case-by-case basis.

We have a program that offers grant money to professors to work with students on original research over the summer.

If we secure funding for replacement faculty, we can get course release for research. This has been done only once, recently.

With a summer fellow program for students to be involved in research under the supervision of a faculty mentor. A small summer grant for faculty to perform research.

Flexibility in FTE accounting as we experiment with different ways of integrating computational methods into a broad range of science classes.

I'm not sure we've had an administration with a "natural" sense of the importance of science (compared, say, with a "natural" sense of the importance of theatre or film studies). However, after some prodding on our part, the college has just completed a \$20 million addition to the science facilities. This qualifies as "creative support" and should help us in the future.

They typically approve a 1 course reduction per semester for research active faculty. In terms of an understanding of the time effort devoted to these activities, they have no idea.

Our department is math and computer science combined. The administration is very supportive of the natural sciences, but they are not at all supportive of computer science. The natural sciences have full-time departmental assistants (one for each department). We are not able to get an assistant in our department.

I fear that the administration doesn't well understand those demands

The college has found a benefactor who each year awards \$25,000 to a science professor for use in professional development and at the college. The college also funds summer research for undergraduates. Lately, there has been discussion about ways of helping science faculty obtain more funding for undergraduate research and talk of hiring additional faculty to reduce teaching loads.

They send very conflicting messages - excel in teaching coupled with why aren't you guys doing real research? Teaching demands (or our own personal desire to teach well) takes significant amount of time leaving very little time to do (or even think about) research. Most of my own research is now in area of pedagogy instead of my discipline.

Question 23

"Creatively supportive"? Not really.

I don't think it is. We just went through an outside evaluation and the evaluator was surprised at how much we were able to accomplish with just two people and a total of about 25-30 majors.

Support for the sciences generally comes from within the departments and the Science division itself. The occasional course release is available for major curriculum development. Negotiations of leaves are generally flexible. Money for the sciences is tight.

Large sums of money are spent to provide latest and complete lab equipment. We just received NSF grant to provide scholarships to induce students to become science majors.

Very much so. We are in the middle of a \$44 million expansion and renovation of the science building. 80-100 students per year are funded in science for summer research with faculty, and faculty receive some teaching credit for this work. We have very nice facilities, opportunities to attend 1 or 2 professional conferences per year, etc.

Funding opportunities for summer work with students, library privileges, funding for travel to conferences.

Support is rather weak at this time --- we're on our own.

Provides fairly substantial resources in terms of space and equipment.

If there is a need, the administration works diligently with us to help.

Summer research support, grants to students and some faculty.

Funding for student collaboration with faculty, student research assistants for faculty research, and individual student summer research projects (3 types of funding)
equipment budgets

We have a good sized, well-supported summer science program, though compensation for Faculty mentors is minimal. Overall, as a college traditionally strong in English, science is gaining, but still not fully understood by the administration.

I don't think they are focused on the support of the sciences at all. They encourage us to get external grant support, but provide little support to help us.

Question 23

I'm not sure that it is appropriate that our institution support scholarship in science differently than it supports other disciplines. Certainly, it has a responsibility to ensure that labs are adequately stocked, but that is neither creative nor unique. In terms of scholarship, the institution not only provides travel (first conference guaranteed, partial support for second conference likely) and funds for student assistants and supplies, but also has a large budget line for student-faculty research. (I'm pretty sure that that budget line is between 1/3 and 1/2 million.) That line pays for summer research students in all disciplines, for students to travel to conferences to present their results, and for similar things. I don't know about the other divisions, but the institution is also active in ensuring that our science faculty are able to participate in appropriate consortia that focus on undergraduate science education. We are a member of the Midstates Science and Mathematics Consortium, a group of about a dozen liberal arts colleges and two major research universities (UChicago and WashU) (*continued below*)

that supports a wide variety of activities, including a pair of undergraduate research symposia, each of which attracts about 100 students annually, a few small meetings to give faculty a chance to talk about a particular issue (e.g., neuroscience, interdisciplinary science, quantitative reasoning across the curriculum, bioinformatics), and individual faculty visits. Our Dean is also very good at encouraging faculty to participate in PKAL activities, and regularly pays the expenses of traveling to PKAL conferences. In terms of teaching, our institutional culture is such that faculty are encouraged to think of new and better ways to teach science. Some of this encouragement comes from our culture of science. Some comes from celebrations of particularly good strategies. Certainly, our introductory biology course provides an excellent model for science education, and I hear a wide variety of people talking about it. The institution also supports a bi-weekly science teaching discussion group (support is relatively cheap - the institution pays for the cost of lunches for participants).

We have internal funding for student research and they support housing for the summer. There is also a concentration in applied math both in the natural and social sciences. The administration is also open to new courses in applied math.

The administration has responded to a number of requests from science faculty. A fine example is the establishment of an endowed fund to purchase science equipment yearly.

None at all --- I feel as if we compete for tenured positions with the humanities. Our department has had three negative tenure decisions and one positive tenure decision in the last six years. Very tough.

The college is quite generous with startup funds for new faculty (tens of thousands of dollars)

I don't think the administration is being particularly creative in this sense.

Question 23

The hard sciences -- mathematics, computer science, chemistry, physics -- struggle here, somewhat. The main problem for math is the disproportionately large teaching load as measured by the number of students that pass through our classes. Our credits attempted per full time equivalent faculty member is about 400, as compared with a school wide average of 300. We struggle to attract majors and to find time to devote to our research and to undergraduate research.

Some small effort to raise the visibility of undergraduate research. Also, the college is relatively generous with start up funds and a nod toward market forces and salaries.

Large institutional grants (e.g. HHMI) which funds research and other projects among the faculty.

Supports matching funds for research proposals

Grant-writing support for funding major instrumentation purchases, summer grants for student research stipends

None of my institution's administrative staff are scientists; they only vaguely understand the unique demands of science within a liberal arts institution. This leaves science faculty disproportionately burdened with justifying their funding requests.

Administration created an endowment, income from which supports research (\$50,000 - \$70,000) per year). Some departments have special endowments that also support research (Physics has one that generates \$5,000 per year). Several grants (institutional) support summer research by students.

They have started to recognize this, as we have received much more support over the last 6-7 years. We have gotten a new building, and more importantly funding for equipment, and last year we added a Lab Manager that is shared among all the science departments, which has been very encouraging. But that's not really creative is it? It has been very helpful however.

Membership in a consortium of local colleges, with opportunities for some collaboration and small grants -small, competitive internal grants available for summer research

They want to know why we have not won a Nobel prize.

They are not. Science is greatly under-appreciated, and the faculty evaluation process is, in some ways, biased against those in the sciences.

Administration is very supportive of field-based courses and field-based research opportunities for students.

The administration is not creatively supportive. The individual departments and faculty have to be creative if any research gets done. But the administration does allow us some freedom - what works for one department doesn't necessarily work for another.

Question 23

Only recently were we able to get some page charges paid for by our institution. Sciences are treated as other disciplines. We have a poorly paid science faculty and highly paid humanists, though the competition for faculty differs. For instance, there is little difference in the hiring scale for a science faculty member who has 1-2 years of postdoctoral experience versus a humanist who has a fresh degree. Over the past two years, we have gotten more competitive with our start up funds. Though there still is no release time to get research started because we are a heavily teaching oriented institution.

There is a summer research with students program, but it is not large enough for all faculty who desire to participate.

1. Reasonable start-up funds for new faculty. 2. Provision of internal funding for research by students and faculty 3. An endowed program that supports 40-60 students each summer (10 weeks @ 40h/wk) 4. A research/professional development fund for all fulltime faculty

They provide a number of small funds that are available on a competitive basis, but the competition is not too fierce; they also have a new Information Technology liaison for the Natural Science division and built a new Science Center just a few years ago

They aren't supportive

Sometime supportive, other times not.

They are supportive but not particularly creative. we can always get funds to an annual meeting and additional funds if we are presenters. There is grant money to bring students to professional meetings and special funds that can be tapped for research needs.

Funds for matching external grant monies, funds for maintenance of major instruments
Nothing really creative here

They match funding on proposals that require it (not creative, but supportive). They are beginning to give some start-up funding

We get release time for special projects if they might increase enrollment and if they think it increases publicity. We support initiatives that relate to careers. We've added nursing and gotten rid of German and Classics while adding no new labs and putting on hold for two capital campaigns completing a 3 phase plan for science. We promise support to continue funded research on grants and when the match comes to an end we don't fund those student internships. The administration cut funding for academic computing and moved the only webmaster for the college to the development office, leaving faculty without resources. I don't think the administration understand the demands at all.

The most positive support has been making start-up funds available for new faculty. This support has normally been \$20K but for a few recent hires there have been some creative arrangements made to increase this.

Question 23

Not supportive

Providing funds for student research; providing research funds for faculty and faculty/student collaborators.

Teaching relief in that science faculty only teach 4 lecture courses + 4-5 lab per year, as opposed to 6 lecture courses in other divisions. However, the college does not credit teaching by contact hours so those in the sciences actually end up teaching more contact hours than in other divisions. Have hired someone to oversee large grant preparation (NSF, NIH, HHMI) and who helps search out additional sources of funding for faculty in the way of smaller grants

The administration is working hard in a very tight budget. Encouraging and facilitating grant support -- nice start up packages, and some faculty release-time grants. A new 'course' allowing a faculty member to get FTE for a team approach to research just passed the faculty. Yet to be seen if this will actually work. Seminars, symposia and institutional grants to support students and equipment purchases.

They are creatively supportive of research in all academic divisions and the unique demands of each discipline. Conversely, they give equal weight to research from all divisions.

Provides some of the funds (stipends for students and faculty) to support our summer research program. Other half comes from grants. This provides a critical mass of students and faculty and keeps people going between grants.

It is not. It views science disciplines as the same as all others.

The only way I can think of is the counting of a lab as a course. The commitment to research students, which can be extreme, is not recognized as a course equivalent. Turning in a federal grant proposal is considered by the dept faculty to warrant merit. I have no statistics to suggest it is thus seen by the Dean and faculty council that actually determines merit shares (based on department recommendation, usually less than recommended.

Internal grants awarded to faculty and student teams. Excellent start up packages. Excellent library services

Equipment replacement program

Biology negotiated 0.75 FTE years ago, with 0.25 salary drawn from individual grants. Lately the institution has been paying the 0.25 with the understanding that biology faculty would continue to apply for outside funding.

I think they are trying to recognize research more. However, it is still a humanities based format for research.

I don't think they are very sensitive to the unique needs of scientists.

Question 23

They do not. There is terrible rivalry between the sciences and the other two divisions, arts and humanities, and social sciences. Science faculty teach two lab courses per semester though, while the other two divisions teach three courses per semester. In that sense, we teach 1/3rd fewer courses.

Budget support grant writing support summer student stipends

Course credit for prepping and teaching labs seeking funds for major equipment purchases moving ahead with building a new science center

We have grants and endowed funds to support student research in the summer, which currently includes faculty stipends. Students pursuing senior honors theses are supported with institutional funds, and students can apply for funds to attend scientific meetings.

Provides good facilities. Provides matching funds for nearly any research idea. Provides travel funds for at least 1 meeting per year.

We receive funds for teaching labs, and we have lab space. Occasionally we receive funds to support equipment use (for equipment purchased w/ grants). We have some technical support. There is no creative support.

Facilities - new building with large research labs resources and support

The administration provide funds in a roll-over account for maintaining instruments; they are liberal in providing matching funds for grant proposals.

Our Connections curriculum encourages us to work with our colleagues outside the sciences to help students find the relevance of our work in theirs. My own research extends this connection.

Although research is considered a requirement for promotion and tenure, the college has not made significant changes in teaching loads or other responsibilities to accommodate research. This is something that we struggle with. As a result of college policy, only 1 science professor has been promoted to full professor in the past 20 years. A recent improvement (past 5 years) has been the designation of start-up funding to new professors.

Our administration says that it is supportive but that is about the extent of it. There is no recognition of the time, effort, and expense of keeping even a modest research program running. We do not receive any release time, receive minimal start-up costs that are often delayed in delivery, and many faculty do not have adequate space to conduct research or engage in collaborations with colleagues and/or students.

There is a small stipend for faculty supervising summer research who don't have grant-supported summer salary. Otherwise the administration is less clued-in than I would hope.

I think that my institution does a poor job with this in many respects, particularly with regards to funding.

Question 23

Specific endowed funds are earmarked for scientific equipment and student summer research assistantships.

Provides match on grants. My department has release time but we have a masters program also.

This won't sound good, but they have largely left us alone.

The requirement of a senior thesis (campus-wide) is unique in itself; the importance of a healthy research program is particularly important if science theses are to be genuine investigations into contemporary questions. I do think they realize that there is therefore a blurring between "research" and "teaching" (at least that's what we harp on all the time).

We have an "Advantage" program that will support a student for one summer who is conducting research with one of our professors. This opportunity is not unique to the sciences. Faculty may receive a small stipend to mentor a research student(s) through this program. This stipend does not increase with the number of students, has alternately been awarded and denied over the years. The stipend was last \$700.

Internal grants (up to \$5000/ student) for summer research as well as smaller amounts during the school year.

I'm not sure I would call this creatively supportive, but we do share a staff person with chemistry who not only handles orders but other departmental paper work associated with hiring, etc. Other departments have no such support. We have been given money for research equipment for ongoing faculty, start up funds, money for teaching equipment, and increases in expendable supplies budgets in a generous fashion in the past twenty years.

We have very nice facilities, and the administration has a friendly attitude towards the unique funding needs of the sciences.

The University has a director of undergraduate research. This person has a budget to support undergraduate research projects, including travel to professional meetings. However, support from this office is not restricted to research in the physical and life sciences. Scholarship in many areas is supported through this office.

We have a very liberal leave program which is essential to our continuing research productivity. There is also significant support to fund student interns during the year and in summers. We have a required independent study thesis (3 semesters) which guarantees that all students are engaged in research. This represents an addition to our course load but we also get (at least on paper) teaching credit for large Independent Study loads. However, since the courses have to be taught no matter how many students we have, this often results in individuals carrying overloads.

Question 23

It isn't. Funds are short and no course credit is given for sponsoring large numbers of researchers and interns, though interns take little time. In short, the College gets a free ride on the backs of faculty and then touts student achievement to bring in even more students who want the same.

Supportive in the general sense and within the limits of college resources, yes. Uniquely creative - probably not.

They try to keep us down not to stick out among other nonscience departments.

Funds available to assist student in doing research, including summer stipends and small equipment budgets. Very generous start-up funds and high quality facilities including a \$50 million new building for the biology and psychology departments

I don't think they are creatively supportive. They provide some money for start-up and travel, but to do ambitious research (required for tenure) seems to require securing external funds through competitive application.

The administration has been financially supportive historically

I'm not sure about "creatively supportive," but they provide support for students doing summer research. We also have an honors day during which student scholarship with faculty is celebrated.

1. Building a new science wing to house biology and chemistry. 2. Willing to work with science faculty to find new ways of funding research, etc.

Weak, though improving. Funds for student travel and equipment support have been added this academic year. Acquisition of promised start-up funds has been lacking, and this has impeded faculty means for doing seed data research to support grant submissions.

We are no more supportive of science than of other disciplines. "Creatively" supportive is a dream!

Equipment funding.

The tenure committee requires fewer publications than would be required at a research institution, and has a realistic goal for undergraduate research projects done in a faculty member's lab (to mentor undergraduates in how to do science, rather than get publications).

The culture of support for research has changed dramatically with the changes in our upper administration, and has not been institutionalized, regardless of on-going efforts of some. Some departments fare better than others.

Not very supportive. I don't think they really understand it very well

Question 23

There is a consistent, (but small) pool of money to apply for research support; it's my lifeline between external grants! There is also institutional support for student stipends (up to 2 students/summer/faculty member). The decrease in number of courses taught per year compared to other depts. is also helpful (making up for lab time). The imminent change in the academic calendar from lecturing 5 days/week per class to the more traditional 2-3 days will help with allowing more time for professional activity during the school year.

We have a vibrant student-faculty collaborative scholarship program that supports up to 40 students and faculty college-wide for the summer months.

Yes and no. Administration tries to keep faculty happy without making monetary investments. So requisite work load is ridiculously light. Faculty avoid systems of objective evaluation, and administration rewards intentions regardless of results. As a result however, there has been a trend in decreasing quality of education that we provide. For these reason, I resigned a tenured position this fall.

All of the other science departments have assistants in instruction that either teach lab sections, or assist with laboratory set-up, instrumental calibration, etc. We don't have any such staff at this point but plan to request a departmental assistant this summer.

Our students are required to complete a one-year "senior thesis" project that is based (in most cases) on original research. This is an institutional requirement, not a departmental requirement. Because this requirement exists, it is possible to request (and receive) considerable support from the institution for research infrastructure.

Not very - our academic dean is not a scientist and doesn't seem to understand that the practice of science requires different resources than say the practice of history.

A competitive (1/yr) pre-tenure sabbatical program, substantial start-up funds, excellent instrumentation/facilities, awards, small internal grants, application for college/division/department-wide grants to support research, encouragement to intentionally incorporate work that benefits research program into the classroom or laboratory.

Providing matching funds for grants, as needed.

Provides summer stipends for research for both faculty & students. Start-up support is about \$80,000 per new faculty member.

Tries to make good start up packages for new faculty. Gives good research administration support.

I don't really feel that they are supportive.

Question 23

Hmmm. "Creatively" might be pushing it. I do think our administration is very supportive of faculty ideas, in general, even though we are terribly under funded. With regard to teaching science, we are a remarkable place and everything you can think of will be supported. With regard to scientific research, we are struggling to improve and currently having conversations to try and figure out where we're going. Right now, we have the talent but not the funding or time to do much research aside from student projects. Up to \$3k per year for research funds, plus support for summer student research assistance. Big crunch is not on material support, but time to do this while teaching a full-time load. Our department is one of the few that REQUIRES all majors to complete at least 4 semester hours of supervised independent research, which adds to loads of faculty.

Student summer stipend and housing. Opportunity to apply for mini-sabbatical for month of January during interim term. Small amount of summer support for some faculty.

We have funds that are flexible in support of courses and research, so the funds can be effectively used for either.

Start-up funds, stipends available for student research during summers, matching funds for external grants, etc.

It has recently funded an "academic equipment" fund (\$180,000.00 per year, new in 06-07) to make up for shortfalls in equipment acquisition and maintenance. Our department was able to have over \$75,000 in immediate needs funded. In addition, money for student travel to conferences is now available. Matching funds are available in most cases, given that indirect funds can be counted.

I am not sure that our administration is "creative" in how it supports science programs. The administration does provide significant support for student summer research stipends and on-campus housing. They are also good about making quality cost-sharing commitments for external grants. There is a strong commitment to IT technology and resources, which provides us with excellent computer resources.

Some additional funds for equipment

We have a recently created fund administered through the Dean of the College for equipment.

Our administration supports us by: -Having a program of internal grants -Providing matching funds for proposals -Having a yearly "Faculty Scholarship recognition" ceremony -Providing funds for a weekly lunch, with a talk, during the summer for those faculty and students conducting research, as well as staff -Steak dinner for all summer research students and the end -Student research symposium during April -Providing extraordinary maintenance money for the support of research equipment -Generous sabbatical (5 year) support -Electronic access to dozens of scientific journals -Travel support for faculty and students

Question 23

Overall, the administration has not a special program just focused on the sciences; the administration attempts at equity across campus. But, several points may apply: (1) Provides a sufficient departmental budget to maintain and operate all instrumentation. (2) Provides all faculty, not just science, the opportunity to hire summer research assistants with college/endowment funds. (3) Provides all students the opportunity for academic year research support (\$500). (4) Provides cost-sharing for instrumentation grants.

Every 2-3 years, the college gives additional funding to science departments to purchase new equipment (~\$20-30K). Although this funding is often for equipment for lab-related courses, it is often purchased with the express intention of using it for research as well.

We have a director of the Science Center who has recently been successful in obtaining external funds for research/curriculum in the sciences. The main administration has no idea what scientific research entails or requires.

I don't see anything creative at our institution.

Support for a summer undergraduate research program with student stipends and housing.

Special funds for small equipment items, line item in departmental budget for routine "classroom supplies" that also encompasses research materials.

The only actual support is a non-funded course release for those faculty heavily involved in a research program. This brings the 'standard' teaching load down to 3 courses (which may include a lab as one or two of those courses).

It is unclear that a distinction is made between scientists and other faculty members.

Getting credit for teaching labs was a huge thing for us. We used to have a 3/3 load where labs didn't count.

The dean does a VERY poor job of this.

I think my institution is not very supportive of the demands of science. Despite the high workload associated with teaching labs and with scientific research, we teach the courses with the largest enrollments. We are judged by the same guidelines as faculty in humanities and social sciences with far fewer advisees and students. Consequently, the only way to get tenure is to have no life outside of work.

Note many... supportive within limits, but student demand for class seats often leads to lots of overload teaching, which is compensated, but little is done to provide additional staff to prevent overloads

Question 23

We have been very fortunate to have had a large gift to the college (about 10 years ago). Income from a portion of this gift supports the acquisition of laboratory equipment in the natural science departments (Chemistry and Biology).

Some money available for NS equipment purchases -- mostly for classroom use, though. Several small alumni-funded funds for student stipends for summer and senior year research.

We have an endowment for science equipment purchases that is shared by all science programs.

Good budgets, good facilities,

Not too creative but the teaching load is very light

Successful researchers may apply for faculty development grants that often result in one or more terms free from teaching. these are highly competitive and applicants must seek federal or large state funds as well.

I don't think there's much support for the "unique" dimension of sciences; pretty much gets lumped in with all the other disciplines as equals.

We are making the transition to a research university and a recent change in structure of the university is resulting in a lot more support for science faculty

We get good support and help from our administration.

Laboratory Instructors for core courses

Creatively, I'm not sure. The Dean does have a monthly meeting separately with science chairs to discuss and support the unique demands of science and to consider budgetary issues unique to science.

Question 24

Below is a space for additional comments.

Psychology is a science at my institution and is treated equally with the other sciences.

We presently do not have a computer science major, although we do have a minor. Because of this, several of your questions were not relevant.

We require 2 semesters of senior level research. It is some of the best teaching we do, but it is a huge commitment. We do not get course credit for taking on research students. We in the natural sciences teach a 4-1-4 load (labs count as courses) compared to a 3-1-3 load in other disciplines.

We have one "building" secretary, not a departmental secretary, and she is half-time. She is shared by the three departments in the building.

Faculty have to have some research (defined broadly) for tenure and promotion to associate. However, beyond that, a faculty member need not continue research - they can do other scholarly activities which are considered just as highly.

We have 1 full-time secretary for the entire science division. We have 2 part-time adjunct faculty members

We use an egalitarian pay scale: everybody in a certain stratum of their rank get the same pay. There are no salary "stars".

We have a half-time technical staff member and share three secretarial staff between six or so departments. I've counted both as "1" on the form. For the "significant research" question. Significant research with one student counts as 1/6 of a course. We typically accumulate those credits and use them either for course releases or to extend half-year sabbaticals to full-year sabbaticals.

I had to do some rounding on several of your questions. Our teaching load is 5.5 courses per year. We have a senior independent study experience in which each senior works individually for two semesters with a faculty advisor on a project leading to a thesis and oral defense. ALL seniors must do this. We receive 1/5 of a course credit for each senior advised, so 5 seniors means one full course release. I am on the CS side of a combined Math/CS department. There are 3 full-time CS faculty and 6 full-time Math faculty, plus a few part-time instructors in math. Math/CS shares an administrative assistant with physics. (She is fantastic; we would be in sorry shape without her.) Our departmental staff consists of a part-time person who runs our Math Center and an intern who manages the computer science lab.

Question 24

Mathematics isn't science.

We are in the process of moving from a 3/3 teaching load to a 3/2 teaching load.

I have to comment on number 18. We have a grants administration office with a guy who earns a hefty salary and of course he has a secretary. They are completely useless. They say they will mail things for you and tell you about deadlines-as if I need that. I think they should just fire these useless administrators and use the money for better purposes. I also have to comment on number 16-we have a senior thesis requirement-so for 6 students, and they give you a one semester course release. What a joke- Also number 7-we have one secretary and one person responsible for money-but these two take care of chemistry, physics, and math as well. They work these 2 people to death and pay them a pittance.

Course load--We are currently working toward an institutional goal of an average of 5.5 courses per faculty per year. All of our seniors do an "Independent Study" thesis with faculty; working with one student counts as 0.1 courses. This never adds up to a full course for faculty in our department, so I checked "No" above. Typically over the year, we teach 4 courses and 3 labs. The financial support above is solely for travel. There are no research funds automatically available, although small amounts of money are available through an internal competition.

It would have been interesting to separate funding support for research from funding support for travel. They are pooled at my institution as they are lumped in your survey, but research funds and travel funds should be separated. When these funds are drawn from the same pot, more than most liberal arts disciplines, scientists need to choose either to do their research or go to meetings to discuss their research.

The next big steps for our administration is to realize the importance of institutional infrastructure for grant writing and administration (a Sponsored Programs Office). We currently have one person for whom grants and administration is a small part of her job, which is an improvement. The next big step is for our Tenure and Promotion process to adequately define what is meant by "growth as a scholar" in our review process, and if it's going to be publication in peer reviewed journals, that they have to make space for that within our teaching load, as well as recognize that research done with students counts as part of that.

We rely on undergraduates for helping to set up many of our labs and to break them down. Others do not seem to understand that it takes a long time to train these students to be helpful.

Question 24

Research is often, too narrowly defined, leaving our science education with the wider community. Hence we have the situation where evolution and descent from a common ancestor is challenged in the public arena. Or it is difficult for people to understand global climate change as a rate problem, or to understand population growth and decline as a statistical variation problem that influences social security pension planning. These are just some areas where we need to better educate the public about numbers, quantification and the meaning of a more numerate understanding of biological and health problems.

WRT funds available, all faculty get an allowance of \$1,250 every AY to attend 2 academic meetings; funds for research per se are awarded through internal competitions, but the NS faculty use them to a greater extent than the non-science faculty, and the success rate of proposals is pretty high; discretionary funds can also be obtained through direct appeal to Dean and President in exceptional cases

The first intellectual property statement was written by the trustees and lawyers and does not realistically support research in any field

The amount of course load credit for labs and for research is contentious even within the science division. There is a current push, mostly from non-scientists, to decrease the faculty course load to 4.5 or 4 courses per year.

In the past decade we have moved from a community of scholars making decisions affecting the community to a faculty competing with one another for limited resources that are entirely determined by the administration. Funding now goes to "centers of excellence" not departments and if you are not with a center you don't get anything. Young faculty do what is expected and believe that if they object they will not get tenure.

We are, at best, culturally neutral about science. There is no real understanding about the way in which a vibrant and thriving science program adds to the mission and life of a liberal arts institution. Indeed, I would not be surprised if many non-science faculty do not even think of the sciences as a liberal art. The institution also does not successfully recruit enough science interested students.

For Question 6, we have five full time tenure track faculty.

You didn't ask about sabbaticals! We have no pre-tenure sabbatical, but we do get a post-tenure sabbatical every 7 years. While sabbatical proposals are reviewed by a faculty committee, they are not dependent on funding and are rarely denied.

We have a division with about 19 faculty members and 1 secretary. There is no specific secretary for chemistry.

Thank you for carrying out this study. I really appreciate your work.

Question 24

I want to make sure that my teaching load was clear from the questions above, because I was unclear exactly how to answer them. My teaching load is 2 courses and 2 labs a semester.

I look forward to the results of your survey. Good luck to you.

It is impossible to answer "5" faculty members on question 6. It is impossible to answer fractional people: sharing of a secretary by two departments, for example.

For #11, overall enrollment in introductory courses is well over 100, but they are taught in sections of 40 or less.

The question about course load was a difficult one to answer. Contact hours are the way it's done in biology and chemistry, which does inherently count labs at least somewhat. And our service in the intro biology course is different b/c it is team-taught so load is VERY heavy-16 hours of lab weekly!- for (only) 4 weeks.

We have a bit of a double standard. Research with undergraduates is a requirement for tenure and promotion. Also, students receiving the B.S. in Biology must complete either an internship or an independent research project. However, no course credit, stipend (except in infrequent and limited cases), or release time is given for these pursuits. I have had as many as 5 independent study students in a given academic year. These research efforts, while requirements for both faculty and students, are not compensated. Further, the research mentoring workload is not equitably distributed among professors nor is there any mechanism in place to ensure equitability.

Although we do not have secretarial and technical support in my department, we have such support in the division of science and mathematics: 1 secretary and 2 technicians.

To qualify the answer to the question about funds for travel and research, we can qualify for up to \$5000 a year for research expenditures in addition to having funding for summer interns to participate in research, we can also qualify for up to \$5000 for faculty development--workshops, training, etc--and we can qualify for up to \$900 for travel to meetings each year. The Dean is rather generous in exceeding amounts for meetings when we are presenting papers, etc. I've never been turned down for a good cause!

Accounting for student-faculty collaboration in research is an ongoing difficulty; however, when research is not part of a course for credit, the students are not as committed and less gets done. Students who work for pay sometimes don't show up to work their hours during the semester...some sort of motivation for such collaborations needs to improve on both sides, student and faculty. We have lovely facilities to support the work, but not necessarily the "time infrastructure" to ensure success.

Question 24

Clarification for question 10: the standard course load for faculty is 24 credits per year, with one credit per lecture hour and two credits for every three laboratory hours.

Question 15: additional travel funds are available if a faculty member makes a presentation at a professional meeting. A small amount of additional support (equivalent to 0.5 credits for each hour of undergraduate research) is available for faculty who supervise undergraduate research. summer stipends are available for undergraduate students. The expectation for junior faculty to publish a few papers during their first six years is now firmly established. Fifteen years ago, a single paper in five years would have been deemed sufficient. Those faculty who wish to engage in substantive research usually have to spend significant time on it during the summer and/or during a short winter term. It is common for individual faculty to mentor one or two students during the fall and spring terms as well. There has been an attempt to lower the average teaching load for selected faculty in a single department. **(Continued below)**

If a department feels that research is sufficiently important, the department can award one faculty member release from a single course (4 credits). Each department is given enough support to make such an award to half of its faculty. This provision is called "reassigned time", and the provost of the university has stated that it should reduce the average faculty teaching load from 24 to 22 credits per year. The department has a bachelor's degree certified by the American chemical society, and this requires us to limit our contact hours to a maximum of fifteen per semester. "Lower loads are recommended" according to the ACS; in a program of good quality, some research activity is expected. Thus one of our goals is to try to make sure that teaching loads are not too heavy, in order to enable research activity. Some endowed funds are available to support research activities in the department, but budget pressures frequently force the use of these funds to defray operating expenses. The Dean has acknowledged this problem, but increases in the normal operating budget sufficient to meet rising costs is a perennial problem.

We have limited but regular funding for research. If there is a big-ticket item, this can usually be acquired if we can make the case for its necessity.

Faculty in the social sciences and humanities here teach a 3/2 load, meaning 3 courses in the fall and 2 in the spring. Science faculty teach a 4/3 load and sponsor ten or more researchers at the same time. Go figure!

I'm not sure how to respond to question 16. Students do receive course credit for research, and I am supervising two students doing research, but this is in addition to my 4 course teaching schedule.

We have two major needs: 1. More support staff (we have no admin assistants and only one tech) 2. Enough faculty to meet the demand for our courses. We're currently very stretched.

Question 24

For numerical data on new students and students graduating I combined totals for our majors in Biology and Biomedical Science since those two areas have such a significant overlap.

Teaching here is defined as 19-22 hours per year. Thus a science faculty member may teach only 5 courses. (See question 10.)

I teach in two departments, there was no way to designate that in this survey !

It's a busy life!

Your questions about course loads don't make sense in our system. Also, I would like to change my "yes" answer to #16 to "no comment" because neither possibility makes sense in our system. Supervising senior theses does not lead to release time from other teaching obligations, but the senior thesis is listed as a course in the catalog and the faculty supervisor is listed as a teacher (and must provide a grade for the thesis).

Standard teaching load college wide is 12 contact hours per semester. A typical lecture course is either 3 or 4 hours (depending if there is a recitation/discussion session), most labs are 3 hours, some are 5 or 6. In chemistry all research active faculty only teach 9 contact hours per semester. (In other science departments the release is only 3 contact hours per year, not per semester - the policy is under review and potential revision division or college wide)

Our students don't declare their major until sophomore year, hence my answer to question 4. We typically offer 5 introductory chemistry sections/year, teaching 150 - 200 students/year over these sections.

It is still a mystery why students are asked to pay huge tuition bills at universities where faculty are judged almost solely on their research and teaching is often a mere obstacle to research achievement, and much of the teaching is shunted to graduate students. Some small liberal arts colleges still have a large level of engagement with teaching no longer found at larger institutions.

To clarify my answers above, we can get 1 course release (for a 4-credit course) after mentoring 24 credit hours of student research and 32 credit hours of internship (but you are not allowed to do more than 12 research hours in a year). Also, we get about \$1400 for travel to present something at a conference, but any money for research has to be applied for, which sometimes verges on ridiculous (when only the basics are needed).

Teaching load is one lecture and three labs or two lectures and two labs per semester. We also teach one course during January interim term. Non-science faculty teach 3 courses per term along with one course in interim term.

We are currently trying to develop a position for a sponsored research officer who would dedicate time to developing grants. Our current grants officer is for the entire campus and works on gifts to the college as well.

Question 24

Because of our heavy teaching load, grant writing, research and other scholarly pursuits usually have to take place in the summer, when I would like to be a little freer. Teaching is our main goal here in the sciences, but research is expected, outside funding is encouraged (but not required for tenure). A greater need is additional faculty members to cover our classes so we can have a lighter teaching load; not all the disciplines on campus have a 4/4 load. Some have a 3/3 or a 3/4--not very equitable.

With the present pedagogy focused on student engagement within classes and capstone experiences outside of coursework, significant time is spent by each professor who opts for these venues in the mentoring of students. None of these receive credit towards the teaching load or time commitment of faculty by the administration. Our department has been, until very recently, the only department on campus that required all majors to undertake a senior independent project. Student outcome surveys demonstrate that this approach has been very successful when compared against other college departments. But, the administration has accepted such an investment of faculty time as an additional duty, albeit "voluntary", that the department has maintained under their own free will. Depending upon the number of research active students a faculty member may have, more time can be spent with the mentorship than with actual class time. But, then again, this is one of the reasons why Liberal Arts colleges exist.

Two comments on above questions: #10: I am not sure how to quantify our standard course load. We teach a 5 each year, with the first lab counting as "1" and subsequent labs counting as "1/2". #14: Junior faculty receive one term off, paid, as a junior leave to get research done. We are also allowed to take the 2nd semester (either unpaid or using grant money).

Clarification for some questions: 4. Unknown either 6-10, 11-15 could be correct 7. One secretary serves the chemistry/physics and biology departments. 8. One full time (8 lab sections), one part time (4 lab sections) per year 10. Four sections (including lab) in fall, four in spring, and one January term course I would be interested in receiving a copy of the results.

The College is currently moving from a 3/3 load to a 3/2, but the Department of Physics and Astronomy has not yet made the transition. Within a year or two, I expect my response to item 10 to be '5'.

Every senior major is required to carry out a one-year independent research project in collaboration with a faculty mentor. Much of the culture at our institution revolves around the support and execution of this project. We in the sciences face the singular challenge of spending a great deal of time in what amount to "de facto contact hours" in training students in chemical instrumentation and methods.

Question 24

Research is honored and included in the review process, but it's possible to get tenured and promoted without a great deal of published work. We are not expected to fulfill college responsibilities over the summer; teaching summer school pays extra, and we are welcome to get grants to fund summer research work, or we can just show up again in the fall.

With regard to course-release for research - I need to qualify my responses above. We have an official 6 course teaching load. About 15 years ago the Board of Trustees granted all tenured/tenure track faculty members a release course for research/college service.

Teaching is top priority here but a creative professor can find good ways to incorporate teaching and research into upper level courses and in particular we have senior research projects that are an important avenue for research support.

The administration is careful not to offer "special" compensatory assistance to faculty in the sciences. there is a strong and vocal anti-science sentiment among many faculty in non-science departments. the large amount of resources already devoted to the sciences is a sore point for many.

We have a separate biochemistry program that is joint between chemistry and biochemistry with about 20 majors per year. The numbers listed above are for chemistry majors only, even though about half of the biochemists work with chemistry faculty.

The college has much support to pay student workers (nearly no funds for faculty to apply for summer funding for themselves). The college gives all researchers credit for independent study advisees, but not for other researchers. We are hoping laboratory and research demands will be better recognized in the future as we are undergoing changes in administration.