

Teaching loads of tenured and tenure track faculty
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Summary

Expected academic-year teaching loads for tenured and tenure-track faculty vary over CU-Boulder schools, colleges, and departments. Expected loads for individuals also vary with administrative duties, leave, buyouts, and other factors.

Campus wide, the average actual load for tenured and tenure-track faculty in academic year 2004-05 was very slightly greater than the average expected load after adjustments for administrative duties, leave, and buyouts. The average actual load is within one-half course section of average adjusted expected load for 38 of 43 departments, schools, and colleges with six or more tenured and tenure-track faculty members.

“Load” is defined here as the number of primary organized course sections taught in an academic year – in fall and spring terms or semesters combined. Independent instruction and secondary sections such as labs and recitations are not included in the load measure.

Other measures of instructional activity are also shown, with variance over departments, schools, and colleges.

Collaborative product

This analysis is a collaborative product of Faculty Affairs, the College of Arts and Sciences, and Planning, Budget, and Analysis (PBA). Many thanks to Patricia Rankin, associate dean of Arts and Sciences, and Cynthia Husek and Elaine Hernandez of the Arts and Sciences budget office for extensive help in understanding nominal loads, buyouts, part-time appointments, and how the entire system works. Thanks also to Jeff Cox, associate vice chancellor for faculty affairs, and Liz Tomich of faculty affairs for help with collection of departmental expected loads and with information on leaves, administrative service, buyouts, and retirement options.

The approach taken here was jointly decided upon by PBA and the individuals listed above, and carried out by PBA with review by the others. Provost Susan Avery suggested refinements of research activity measures incorporated in the April 2006 version.

Background

Tenured and tenure track faculty at the University of Colorado at Boulder, as at other research universities, typically have contracts specifying that their evaluations and responsibilities are split with 40% in direct instruction, 40% in research, and 20% in service. UCB had 1,013 tenured and tenure track faculty members rostered fall 2004 and spring 2005 (excluding library faculty, who have no teaching responsibilities). Throughout this document, “faculty” means these 1,013 tenured and tenure track faculty members.

In this document, “load” means the number of primary organized course sections taught in an academic year – that is, in fall and spring terms or semesters combined. Independent instruction and secondary sections such as labs and recitations are not included in the load measure. Many other measures of instructional activity are also commonly used; some are presented in this document.

As at other research universities, faculty members are associated with departments. Departments are responsible for providing course sections and instructors to lead them and for assigning teaching within the department. Standard expected teaching loads differ over departments, from under two sections per faculty member per year for Molecular, Cellular, and Developmental Biology, to over four for Theater and Dance. The distribution of standard expected loads is shown in Display 11.2; the precise values are shown in Display 10.

Within departments, expected teaching loads may vary by individual. Factors associated with reduced expected loads in a standard fashion across campus include

- Leave -- sabbatical, unpaid, medical, faculty fellowships, parental, other.
- Administrative duties – Tenured and tenure track faculty serve in many administrative positions on campus, from chair to chancellor. Like other research universities, CU-Boulder fills most academic administrative positions with tenured faculty. This includes department chairs, deans, associate deans, some assistant deans, the chancellor and provost, associate vice chancellors of academic affairs, institute directors, and faculty directors of residential academic programs, research centers, and others. Whereas CU-Boulder definitely practices shared governance, it also practices *shared administration*.
- Retirement agreements. A handful of faculty members have negotiated retirement agreements which reduce teaching expectations.
- Buyouts. “Buyout” is used generically here to cover *all* situations where the faculty member is less than full-time for any of the academic year, and/or less than 100% of the salary comes from the general fund, coming from gift funds, sponsored research contracts, auxiliary funds, and/or other outside sources instead. All such situations bring some reduction in the expected teaching load. The term “buyout” is used more narrowly by the A&S budget office, usually to mean temporary reductions of teaching expectation by a full course section or more. In this analysis we have not differentiated permanent vs. temporary funding assignments or reductions in time.
- The standard rules relating these factors to reduced expected teaching loads, and results of calculating adjusted expected load, are presented schematically in Display 3.

This paper examines

- expected teaching loads over departments,
- factors with a standard campus-wide relationship to expected teaching loads for individuals,
- additional factors associated with modified expectations for individual faculty members within departments,
- actual vs. expected loads by department, and
- other measures of instructional activity.

All analyses here use data available from campus central records only. Situations known only to departments, and situations not recorded in central records, are not reflected in the data but are sometimes cited in discussion. "Central records" includes the Student Information System (SIS), PeopleSoft payroll/human resources, PeopleSoft general ledger, the Faculty Information System (FIS) maintained by Faculty Affairs, and rosters kept by Academic Affairs. Exception: Standard expected teaching loads for departments, schools, and colleges were collected by Faculty Affairs especially for this analysis.

Throughout, the word "department" refers to tenure departments (and some programs with tenure appointments) in Arts and Sciences and in Engineering, and to the tenure colleges of Business, Education, Journalism, Law, and Music.

Throughout, we have focused on understanding and portraying typical, usual, common situations and relationships. With over 1,000 tenured and tenure track faculty members there are exceptions to every rule; those exceptions obscure the basics of how teaching assignments work, and we have therefore avoided detailed analysis of exceptions for individuals. We have focused on departments because *departments are the point of control for course offerings and teaching assignments*.

Overview of analyses

The analyses presented here consider credit instructional activity in academic year 2004-2005 (fall and spring terms combined). Instructional activities such as advising, writing letters of reference for students, lab or research group meetings with staff and students where no credit is offered, course preparation, grading, and office hours are not considered. All, however, are actually part of expected instructional activities.

Concepts and results are presented in a series of displays, some accompanied by narratives.

Some displays present results for individual departments. These identify departments with a four-character code, and with color coding corresponding to school, college, or cluster within Arts and Sciences. The A&S clusters are arts and humanities, natural sciences, and social sciences. Department codes are defined in Display 10.

In many displays department codes overlap to show departments' precise positions on the dimensions plotted. Department values on all dimensions are listed in Display 10.

List of displays

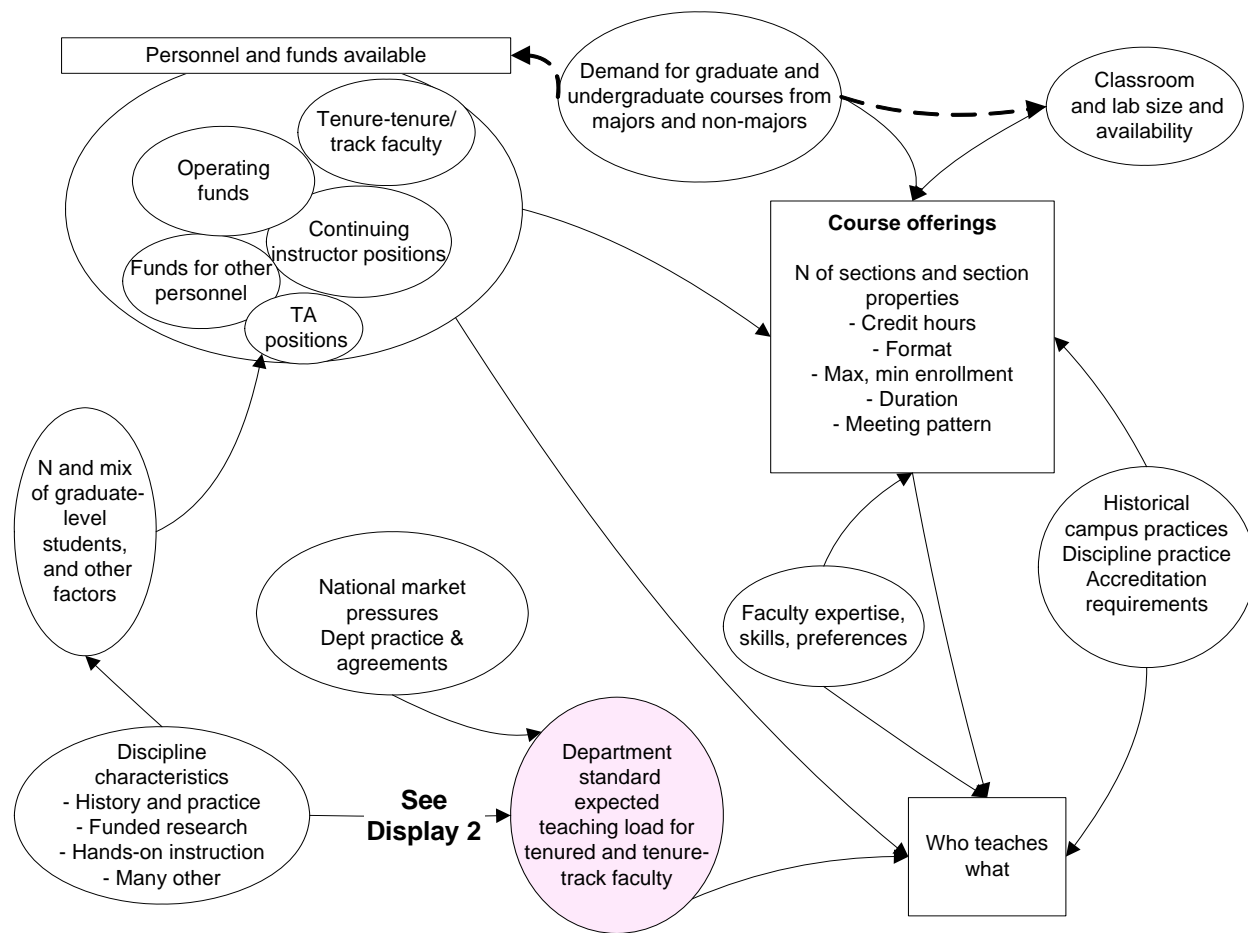
- 1: Department standard expected teaching loads and who teaches what
 - 2: Understanding differences in department standard expected teaching loads
- 3: Factors affecting expected teaching load for individuals within a department, and calculation of adjusted expected load
 - 4: Relationship between standard and adjusted expected teaching loads over departments
 - 5: Details for two departments
- 6: Comparison of expected and actual teaching loads campus-wide
 - 7: Relationship over departments
 - 7.5: Relationship over colleges/divisions
- 8: Types of credit instruction and measures of instructional activity
- 9: Additional measures of instructional activity of tenured and tenure-track faculty, 2004-05
- 10: List of information for each department with six or more tenured and tenure-track faculty members
- 11: Distribution of departments over measures of size, expected loads, factors affecting expected loads, and instructional activity

The **Appendix** defines sources and calculations for all measures and classifications.

DISPLAY 1 Department standard expected teaching loads and who teaches what

A department's standard expected teaching load for tenured and tenure-track faculty (pink oval) is determined by factors inside and outside the institution.

The standard expected teaching load acts with many other factors to determine a department's course offerings and who teaches what courses.



DISPLAY 2 Understanding differences in department standard expected teaching loads

Department standard expected teaching loads for tenured and tenure track faculty range from under two to over four course sections per academic year (fall and spring combined). Display 11.2 shows the distribution of standard expected teaching loads over departments.

In general, departments with more research activity have lower standard expected teaching loads, with research activity measured by the average number of graduate research assistants (RA's) per faculty member. This relationship is depicted below. In addition, after controlling for the number of RA's per faculty member, the average number of credits awarded per organized class section taught by tenured and tenure-track faculty (e.g., 5-credit vs. 3-credit courses) has a small relationship with lower standard loads.

The regression model describing this relationship ($R^2 = 0.63$) is: Standard expected load = $5.8 - (0.5 * \text{RA's per faculty member}) - (0.6 * \text{average credits per organized section})$

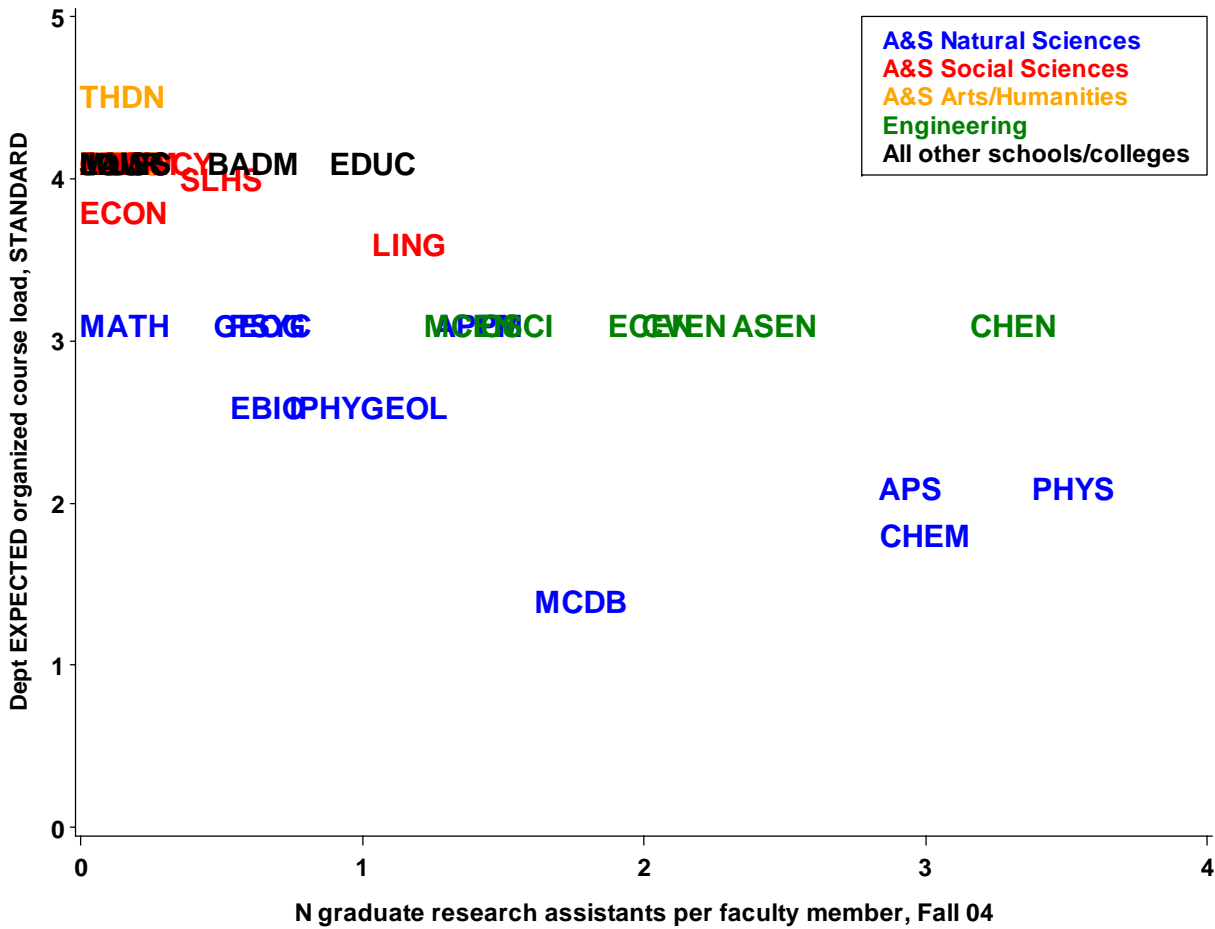
Other measures of sponsored research activity, particularly the average number of sponsored research projects per faculty member, are also highly related to lower standard expected loads. However, the number of sponsored projects measure may not be comparable across disciplines or departments. Because this and the number of graduate research assistants are very highly related, and because the RA measure *is* comparable across departments, we've shown only the RA measure.

Several other departmental attributes *fail* to predict standard expected teaching loads once the factors described above are controlled. These include the number of graduate teaching assistants per faculty member, the number of students enrolled in terminal degree programs (doctoral and MFA) per faculty member, the number of labs and recitations taught by tenured and tenure-track faculty, average size of classes taught by tenured and tenure-track faculty, and student credit hours in individual instruction per faculty member. Other factors thought to relate to department standard expected teaching load are shown in Display 1.

In this and other plots, departments are identified with a four-character code, and with color coding corresponding to school, college, or cluster within Arts and Sciences. The A&S clusters are arts and humanities, natural sciences, and social sciences. Department codes are defined in Display 10. Sometimes the department codes overlap; values for each department are listed in Display 10. Displays 11.2 and 11.16 show distributions over departments of the dimensions plotted here.

Note on this analysis: for consistency with later displays, we analyzed only departments with six or more tenured and tenure track faculty. We also excluded the Program for Atmospheric and Oceanic Science (PAOS) because the department's RA's cannot be properly associated with it. PAOS is included in other analyses.

DISPLAY 2, CONTINUED Understanding differences in department standard expected teaching loads

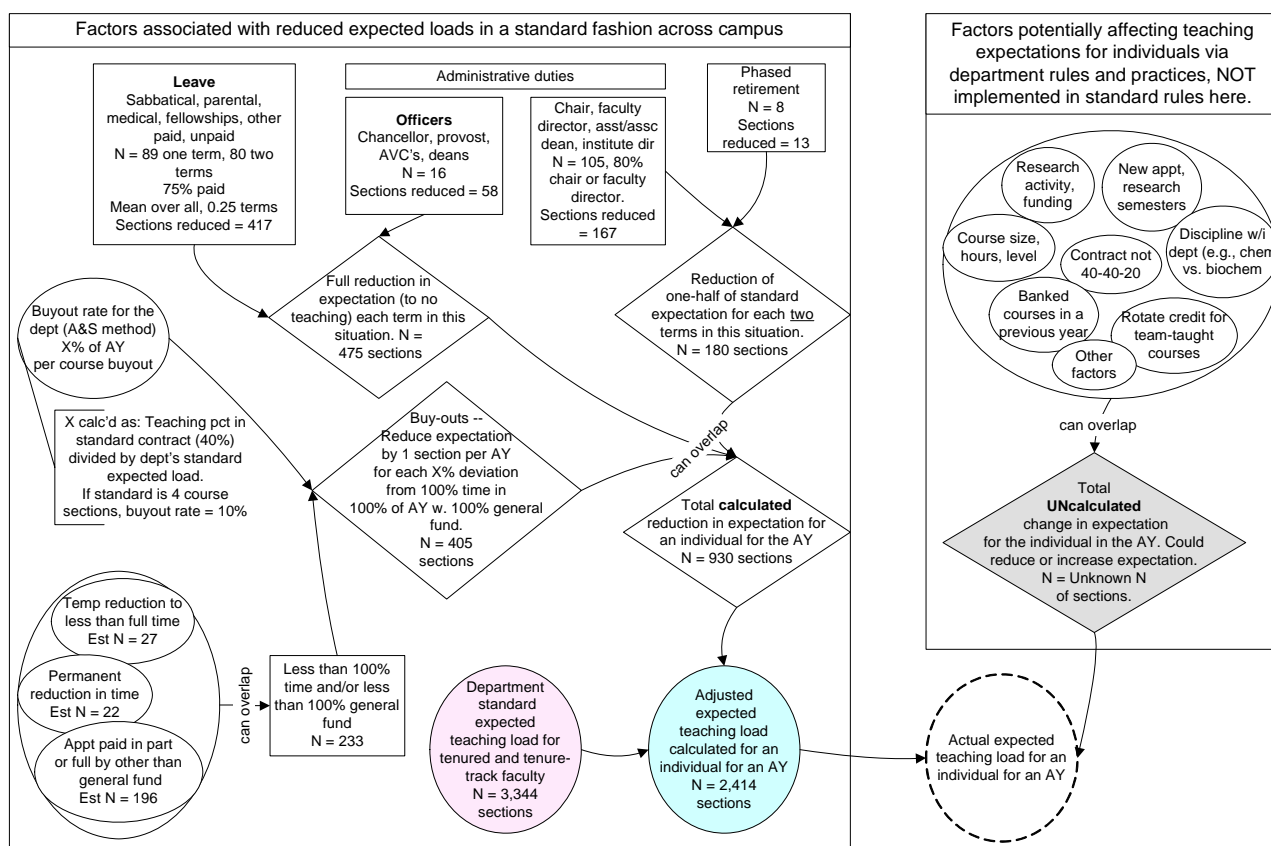


See the Appendix for further detail on the measures and relationships discussed here, including additional plots of measures in the above regression model.

DISPLAY 3 Factors affecting expected teaching load for individuals within a department, and calculation of adjusted expected load

Leave, administrative duties, retirement agreements, and buyouts combine to *reduce* expected teaching loads in a standard fashion across campus. These factors modify the department standard expected load (pink oval) to produce a calculated adjusted expected teaching load for an academic year (blue oval). All these factors are outside a department's control to at least some extent.

Many other factors may *increase or decrease* the expected teaching load for an individual within a department in a year. These modifications are not captured by the standard adjustment rules implemented here. They will differ from one department to another and may depend upon the situations of other tenured and tenure track faculty in the department in the year. They modify the adjusted expected teaching load (blue oval) to produce the actual expected teaching load for an individual (dotted oval).



Further results on leave, administrative duties, and buyouts

Leave -- Sabbatical, unpaid, medical, faculty fellowships, parental, other

- In 2004-05 169 faculty members (17%) were on leave one or two terms (semesters). Taken over all 1,013 faculty members this averages to 0.25 terms of leave, more than the 0.07 one would expect from one sabbatical term per person per seven year period ($0.07 = 1 / (2 \text{ terms per year} * 7 \text{ years})$).
- In 2004-05 the average number of terms of leave per faculty member varied considerably over the campus, from .07 in Education to .34 in Arts and Sciences social sciences. This pattern might be quite different in another academic year.

Administrative duties – Tenured and tenure track faculty serve in many administrative positions on campus, from chair to chancellor. Like other research universities, CU-Boulder fills most academic administrative positions with tenured faculty. This includes department chairs, deans, associate deans, some assistant deans, the chancellor and provost, associate vice chancellors of academic affairs, institute directors, and faculty directors of residential academic programs, research centers, and others. Whereas CU-Boulder definitely practices shared governance, it also practices *shared administration*.

- In 2004-05 121 or 12% of the 1,013 faculty members were officers, chairs, faculty directors, associate or assistant deans, faculty directors, or institute directors.
- Taken over all 1,013 faculty members this averages to 0.27 terms of administrative service per person, with highs around .40 in Business and Law, and all other schools, colleges, and A&S clusters between .20 and .33.

Retirement agreements. A handful of faculty members have negotiated retirement agreements which reduce teaching expectations.

Buyouts. “Buyout” is used generically here to cover *all* situations where the faculty member is less than full-time for any of the academic year, and/or less than 100% of the salary comes from the general fund, coming from gift funds, sponsored research contracts, auxiliary funds, and/or other outside sources instead. All such situations bring some reduction in the expected teaching load. The term “buyout” is used more narrowly by the A&S budget office, usually to mean temporary reductions of teaching expectation by a full course section or more. In this analysis we have not differentiated permanent vs. temporary funding assignments or reductions in time.

- In 2004-05 780 faculty members (77%) were full-time both terms with 100% of salary paid by the general fund. The remaining 233 were part-time one or both terms and/or had some salary paid by other than the general fund. The proportion full-time/100% general fund is 59-64% in Business, Engineering, and Law, 71-83% in the other schools and colleges.
- Taken over all 1,013 faculty members, the average deviation from full-time/full-year/100% general fund is small, averaging 7%. An individual with a 7% deviation could be 86% general fund one term and 100% the other, 93% general fund both terms, or 100% general fund with similar combinations of percent of full time (and salary), or other combinations.
- Taken over all faculty members, the average deviation from full-time/full-year/100% general fund is 1% in Music, 4-5% in A&S arts and humanities and social sciences, 7% in Business and in A&S natural sciences, and 10-11% in Engineering, Education, Journalism, and Law.

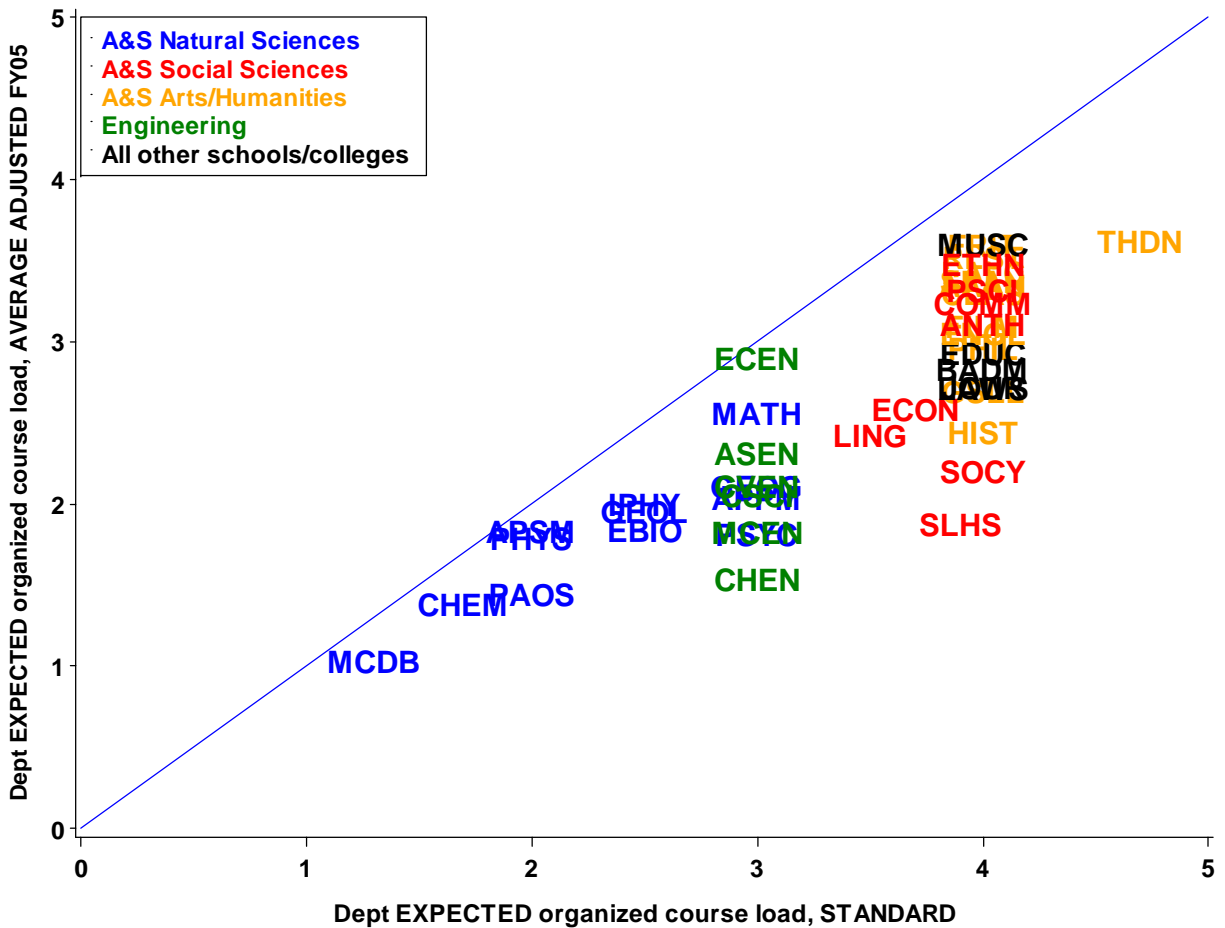
The standard rules relating these factors to reduced expected teaching loads are presented in Display 3.

DISPLAY 4 Relationship between standard and adjusted expected teaching loads over departments

The average adjusted expected loads for departments closely mirror the standard expected loads because leaves, administrative duties, retirement agreements, and to some extent buyouts are evenly distributed over departments and yield only a small net reduction.

However, in any given year a department may experience a greater or lesser net reduction in average expected load due to these standard factors. Note in this display that Sociology (SOCY), with a standard expected load of 4 sections, has an adjusted expected load below that for Math, with a standard expected load of 3 sections. These two departments are discussed in more detail in the next display.

Displays 11.2 and 11.3 show distributions over departments of the dimensions plotted here.



**DISPLAY 5 Factors affecting expected teaching load for individuals within a department:
Details for two departments**

Display 4 shows that Math, with a standard expected load of 3 sections, has an adjusted expected load of 2.5. The adjustment comes from

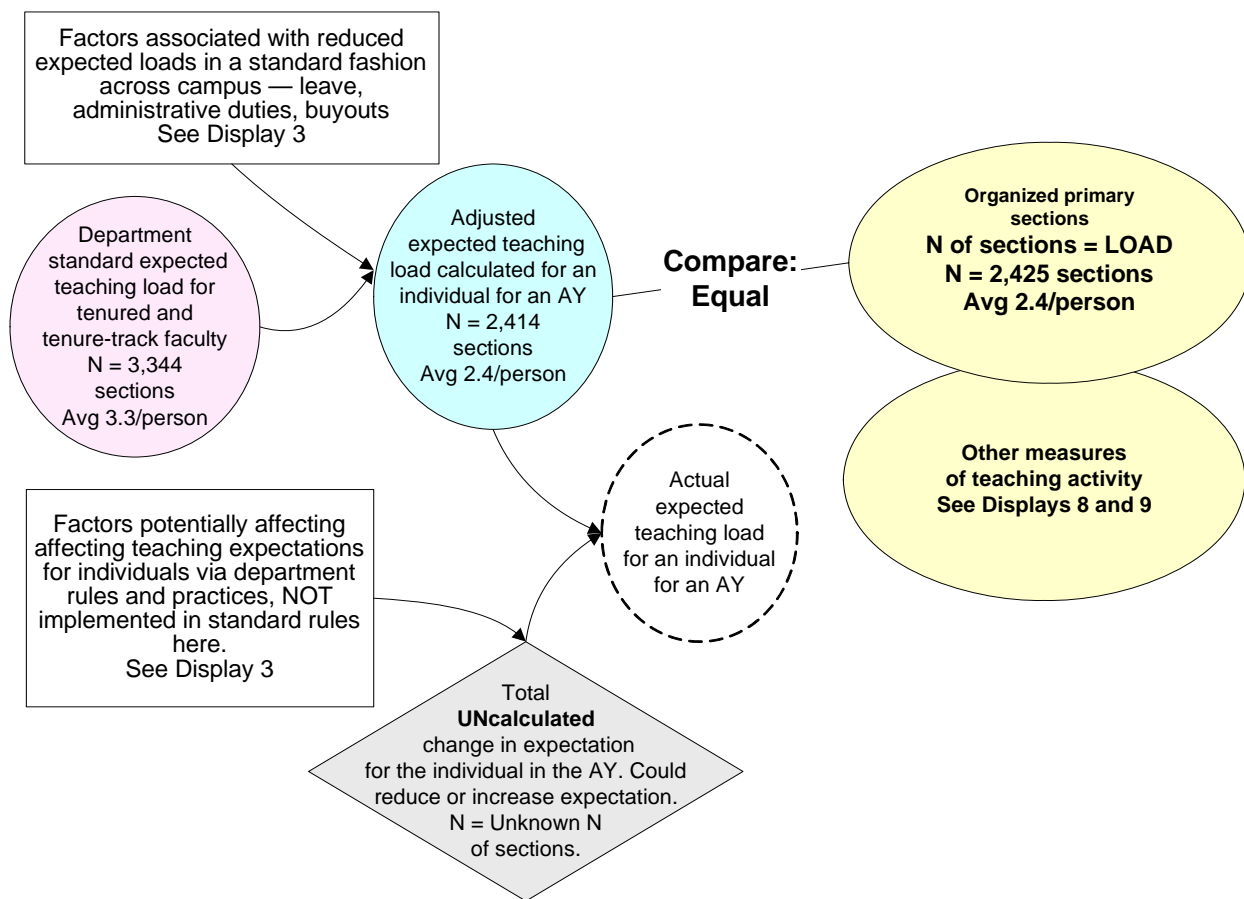
- Average 0.3 terms of leave per faculty member per academic year (for AY04-05)
- Average 0.1 terms of administrative service per faculty member
- No deviation from full-time, two terms, with 100% of salaries paid by the general fund

In contrast, Sociology has a standard expected load of 4 sections but a lower adjusted expected load, 2.1. The adjustment for Sociology comes from

- Average 0.5 terms of leave per faculty member – the equivalent of half of all faculty members on leave for one term
- Average 0.6 terms of administrative service per faculty member. Six of 19 faculty held administrative positions in AY04-05, including associate vice chancellor, institute director, and chair.
- Average 3% deviation from full-time, two terms, with 100% of salaries paid by the general fund

DISPLAY 6 Comparison of expected and actual teaching loads campus-wide

In academic year 2004-05, over the entire campus, the actual organized primary section load for tenured and tenure-track faculty (upper yellow oval) was virtually identical to the calculated adjusted expected teaching load for the academic year (blue oval). Actual load exceeded adjusted expected load, but by less than 1%.



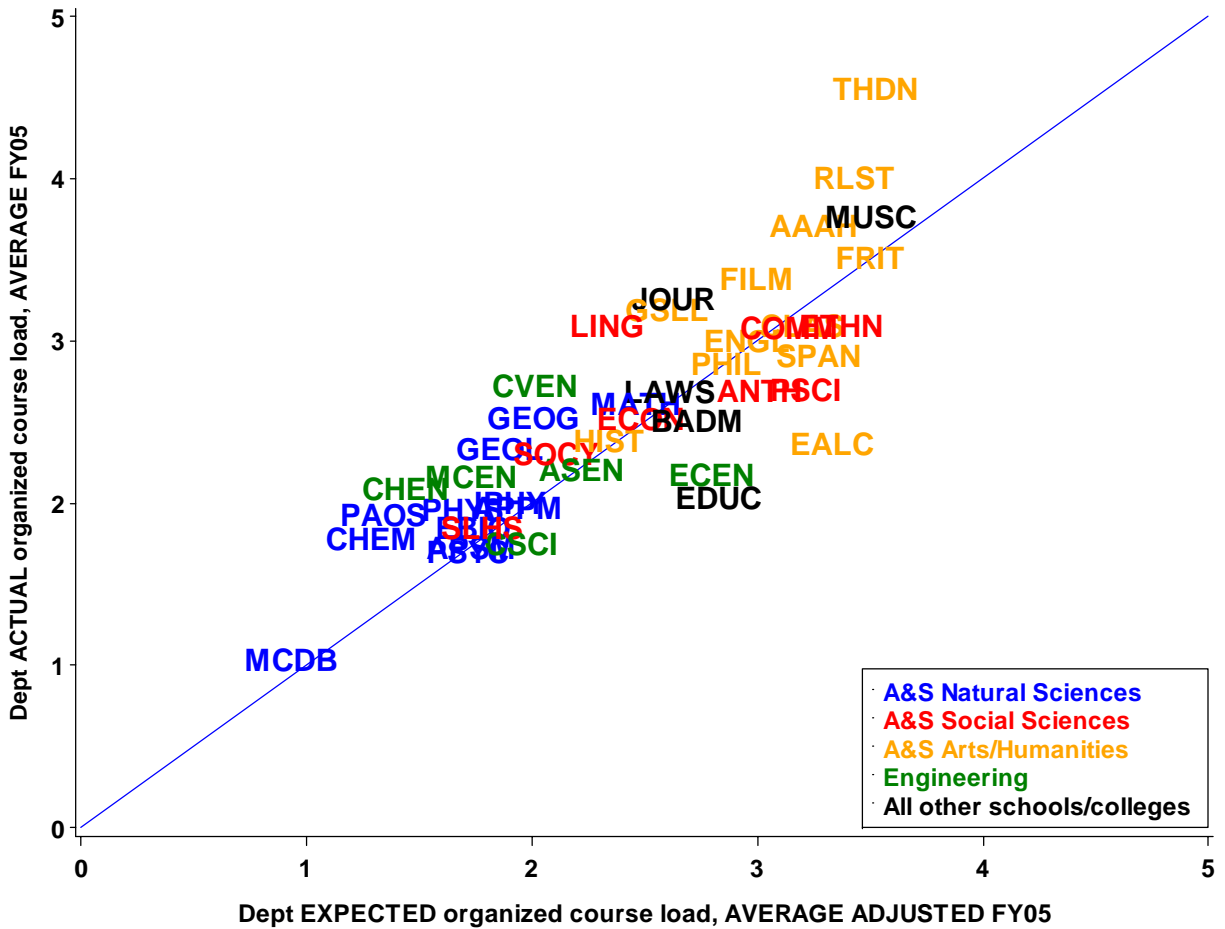
DISPLAY 7 Relationship over departments between average adjusted expected teaching loads (blue oval in prior displays) and average actual organized primary section loads (upper yellow oval in prior display)

Most departments have average actual loads very close to their average adjusted expected load. The two averages are within one-half course section for 35 of 43 departments, schools, and colleges with 6 or more tenured and tenure-track faculty members.

Department-specific modifications to expected loads not implemented here -- for factors such as contracts not 40-40-20, class size, course level and credit hours, and start-up research terms -- would move expected and actual even closer. For example, in the display below, Education's average actual load (code EDUC) is visibly below their average adjusted expected load. The dean reports that this is because 11 Education faculty have been hired in the last three years and have reduced loads written into their contracts for the early years. Providing new faculty with a reduced teaching load during their first years of employment allows new faculty to establish a clearly defined research agenda as well as build a robust track record within a highly competitive research environment. A reduced teaching load allows the faculty member to travel, attend conferences, and seek membership on panels and committees. National and international exposure significantly improves the probability of winning grants and awards. In turn, this increases overall research funding for the campus, provides research employment opportunities for graduate students, and enhances departmental rankings.

In further analyses we checked the relationship between the difference between expected adjusted load and actual load and many additional factors, including class size, number of credit hours, independent instruction, sponsored research funding, number of publications listed on Faculty Report of Professional Activities, etc. We checked these relationships both across departments and within departments (across individual faculty members). We found no factors with reliable or meaningful relationships to the difference between expected adjusted load and actual load.

DISPLAY 7, CONTINUED Relationship over departments between average adjusted expected teaching loads (blue oval in prior displays) and average actual organized primary section loads (upper yellow oval in prior displays)



Displays 11.3 and 11.4 show distributions over departments on the dimensions plotted here.

DISPLAY 7.5 Relationship over colleges/divisions between adjusted expected and average actual teaching loads

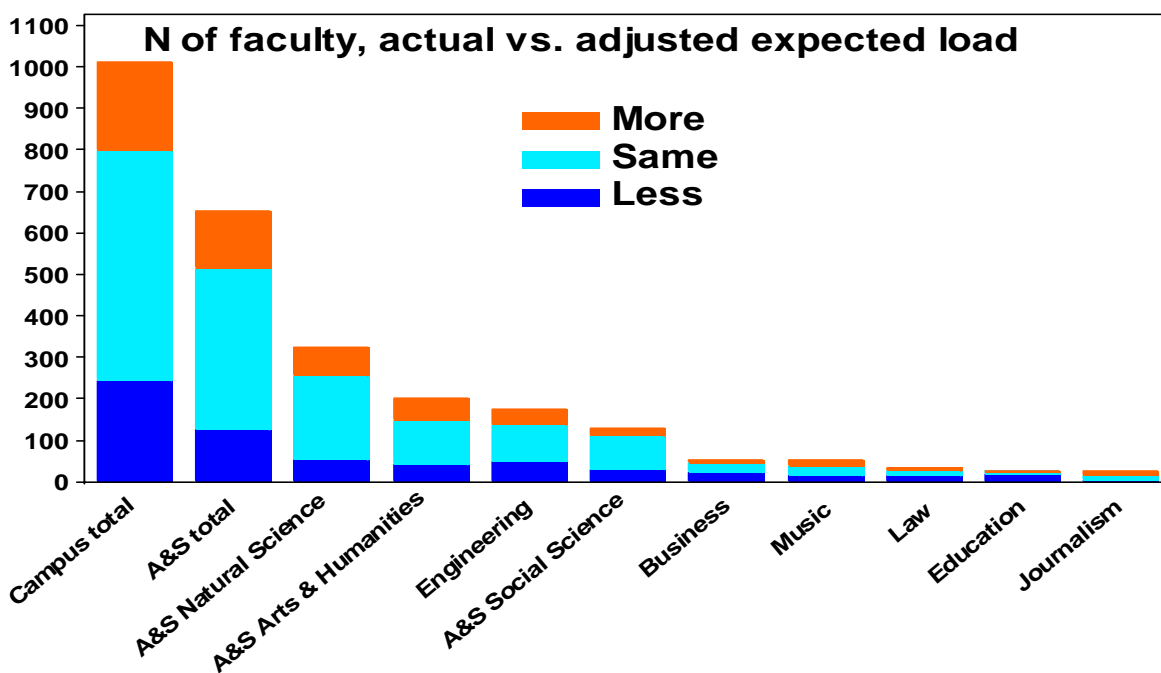
The table and plot below summarize the relationship between actual load and adjusted expected load over all 1,013 tenured and tenure-track faculty members. Faculty are divided into three groups:

- *Less*: Actual load was one or more sections below the individual's adjusted expected load.
- *Same*: Actual load was within one section of the individual's adjusted expected load
- *More*: Actual load was one or more sections greater than the individual's adjusted expected load.

The grouping in the table is based on *calculated* adjusted expected load, which is based on the department standard expected teaching load for tenured and tenure track faculty and on the individual's administrative duties, leave, and buyouts. Other factors affecting expected load but **not** incorporated in the calculation include but are not limited to course size, hours, and level; contracts not 40-40-20; research and start-up semesters; and prior overload teaching.

The table also shows the net number of sections difference between actual and adjusted expected loads by group and overall.

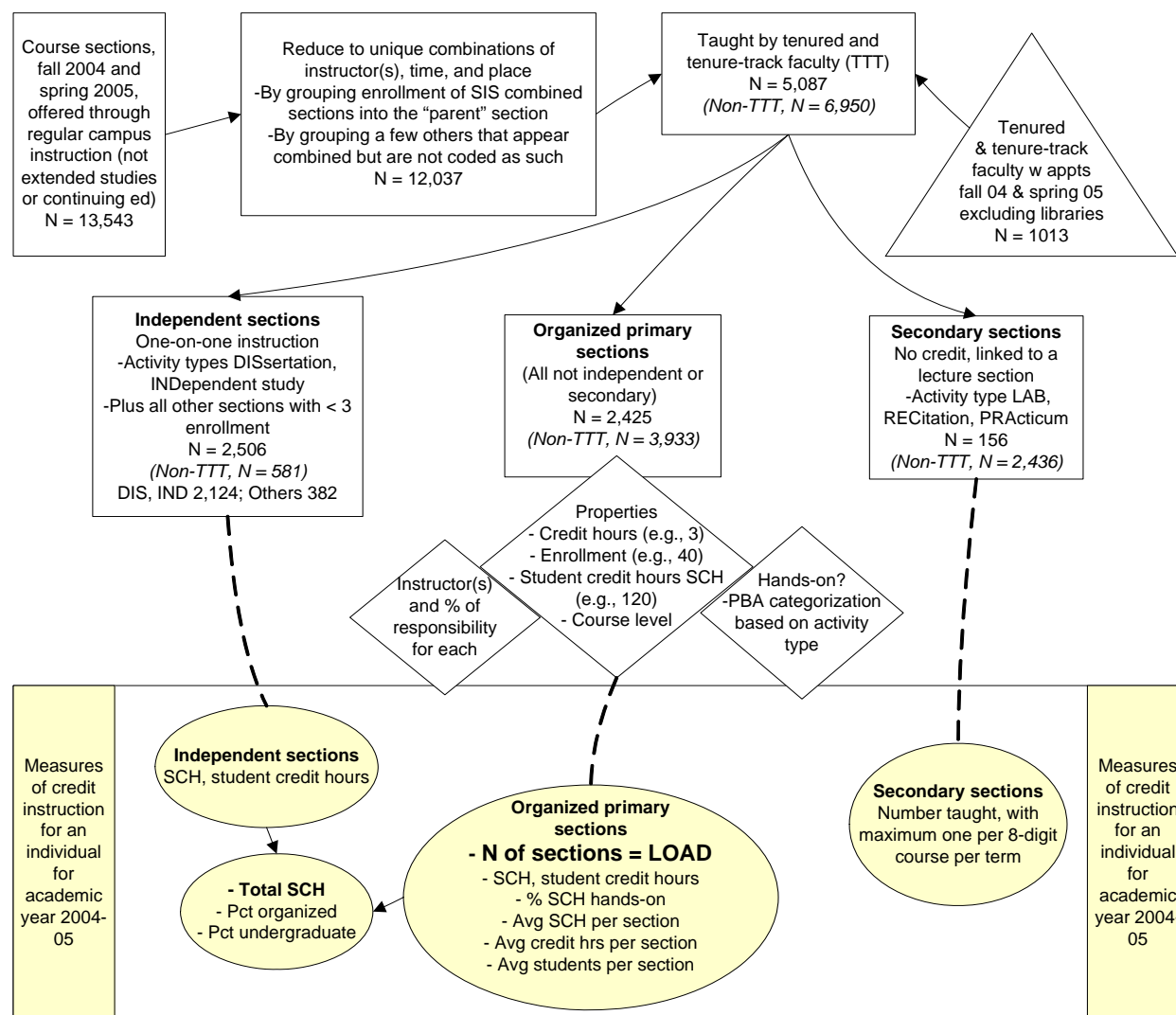
Tenure college and A&S cluster	Actual load, relative to calculated adjusted expected load, is										
	(All)	Less	Same	More	Less	Same	More	Less	Same	More	(All)
	Number of faculty members				Percentage of faculty members			N of sections, actual minus adjusted expected load			
All	1,013	243	554	216	24%	55%	21%	-379	-9	400	12
Arts & Sciences	654	125	391	138	19%	60%	21%	-202	-6	241	32
Arts & Humanities	202	42	107	53	21%	53%	26%	-75	-2	88	12
Natural Sciences	324	53	203	68	16%	63%	21%	-69	-8	120	43
Social Sciences	128	30	81	17	23%	63%	13%	-59	3	32	-23
Business	52	21	22	9	40%	42%	17%	-33	1	15	-17
Education	27	17	7	3	63%	26%	11%	-28	1	3	-24
Engineering	173	48	90	35	28%	52%	20%	-67	-3	69	0
Journalism	24	3	11	10	13%	46%	42%	-5	0	18	13
Law	32	14	11	7	44%	34%	22%	-16	0	16	-1
Music	51	15	22	14	29%	43%	27%	-27	-2	38	9



DISPLAY 8 Types of credit instruction and measures of instructional activity

Load – the number of primary organized sections taught in a year – is but one measure of instructional activity. Load does not reflect course level, course size, or course credit hours. Nor does it reflect instruction in secondary sections including labs and recitations, or in independent instruction including dissertation supervision and independent study.

This display classifies course sections in academic year 2004-05 and shows several additional measures of instructional activity. Campus-wide statistics for these measures are shown in Display 9.



DISPLAY 9 Additional measures of credit instructional activity of tenured and tenure-track faculty, 2004-05

The following measures are introduced in Display 8 (except load, which is described in earlier displays).

As with load, these additional measures capture credit instructional activity only. Other instructional activities such as advising, writing letters of reference for students, lab or research group meetings with staff and students where no credit is offered, course preparation, grading, and office hours are not considered.

All measures listed below are commonly used except "hands on" courses. This is intended to capture sections such as dance, music performance, or studio arts, with hands-on teaching and guidance during the scheduled meeting time. For the instructor these hands-on sections involve different outside class preparation and grading methods, and may be considered differently in departmental teaching assignments. A full definition is in the Appendix. *Note that this measure is preliminary and incomplete, and should only be used as an approximation.*

For 1,013 tenured and tenure track faculty members, in fall 2004 and spring 2005 combined:

Primary organized sections	
Number	
Total	2,425
Average per faculty member (load)	2.4
Where faculty member is listed as instructor of 1+ linked lab or recitation	98
Student credit hours (SCH)	
Total	297,758
Average per faculty member	294
In "hands on" courses	2%
In undergraduate courses	88%
Average credit hours per section	2.7
Average enrollment per section	38
Independent sections (dissertation, independent study, etc.)	
Total SCH	18,307
Average per faculty member	18
SCH in organized plus independent sections	
Total	316,065
Average per faculty member	312
In organized sections	94%
In undergraduate courses	84%

DISPLAY 10 List of information for each department with six or more tenured and tenure-track faculty members

Listed on the following page are departmental averages for tenured and tenure-track faculty members in AY2004-05 for

- Load: Standard expected, adjusted expected, and actual
- Number of terms with any leave and with administrative appointments, and deviation from full time, 100% general fund
- Number of sponsored research projects, graduate research assistants, and students enrolled in terminal degree programs.
- Several measures of instructional activity.

All measures are for course sections taught by tenured and tenure-track faculty only.

All are shown for the 43 departments with six or more tenured and tenure-track faculty members. The remaining five departments are not shown because their small size makes some of the measures erratic, and only two are formal departments. The five are Comparative Literature and Humanities, Womens Studies, Engineering administration, Environmental Studies, and the Herbst Humanities Program in Engineering.

Departments vary enormously on every measure. Display 11 shows the distribution of departments on each measure; the precise values for each department are listed in this display.

Display 11 also shows a longer description of each measure.

In the displays that follow, these colors are used to indicate college and cluster:

A&S Natural Sciences

A&S Social Sciences

A&S Arts/Humanities

Engineering

All other schools/colleges

DISPLAY 10, CONTINUED List of information for each department with six or more tenured and tenure-track faculty members

Tenure college, cluster, department	N tenured/tenure track	Load			Terms with		Deviation from full time, 100% general fund	N sponrd projects	Actual instructional activity, academic year 2004-05, tenured and tenure-track faculty only								N grad RAs	N grad TAs	N majors, terminal degree progrms		
		Standard expected	Adjusted expected	Actual	Any leave	Admin appt			SCH, org'd sections	Org'd SCH, % hands on	Avg credit per org'd section	Avg enrl per org'd section	SCH, indpdnt	SCH total, % ugrad	SCH total, % org'd						
																11.1				11.2	11.3
		Plot number in Display 11 -->	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	11.10	11.11	11.12	11.13	11.14	11.15	11.16	11.17	11.18	
		Campus total	1013	3.3	2.4	2.4	0.2	0.3	7%	2.3	294	2%	3.0	43	18	84%	94%	0.9	1.1	2.3	
AS		A&S total	654	3.2	2.3	2.4	0.3	0.3	6%	2.4	334	2%	3.1	50	18	90%	95%	0.8	1.4	2.4	
AS	AH	A&S Art/Hum total	202	4.0	3.0	3.1	0.3	0.3	4%	0.2	305	4%	3.0	34	13	91%	96%	0.0	1.5	1.4	
AS	AH	Art/Art History	AAA	25	4.0	3.2	3.6	0.3	0.2	0%	0.1	310	26%	3.1	31	9	92%	97%	0.0	1.2	1.6
AS	AH	Classics	CLAS	10	4.0	3.2	3.0	0.3	0.2	0%	0.0	394	0%	3.0	41	10	94%	98%	0.2	1.1	0.6
AS	AH	E Asian Lng/Civ	EALC	9	4.0	3.3	2.3	0.3	0.0	6%	1.6	152	0%	3.3	29	16	77%	91%	0.1	2.0	0.0
AS	AH	English	ENGL	48	4.0	3.0	2.9	0.4	0.3	6%	0.1	234	2%	3.0	26	11	87%	95%	0.0	1.6	0.8
AS	AH	Film Studies	FILM	8	4.0	3.0	3.3	0.4	0.6	0%	0.0	406	0%	3.1	36	3	100%	99%	0.0	0.0	0.0
AS	AH	French/Italian	FRIT	12	4.0	3.5	3.4	0.1	0.3	0%	0.2	217	2%	3.1	20	13	89%	94%	0.0	1.4	1.0
AS	AH	German/Slavic	GSL	10	4.0	2.6	3.1	0.4	0.4	5%	0.3	314	0%	3.0	31	6	95%	98%	0.0	1.1	0.0
AS	AH	History	HIST	29	4.0	2.3	2.3	0.4	0.3	7%	0.3	390	0%	3.0	59	14	94%	97%	0.0	0.9	1.8
AS	AH	Philosophy	PHIL	17	4.0	2.9	2.8	0.4	0.2	1%	0.1	400	0%	3.0	49	15	93%	96%	0.1	1.7	2.2
AS	AH	Relig Studies	RLST	7	4.0	3.4	3.9	0.1	0.3	0%	0.1	557	0%	3.0	42	19	96%	97%	0.0	2.1	0.0
AS	AH	Spanish/Port	SPAN	11	4.0	3.3	2.8	0.3	0.2	9%	0.0	153	0%	3.0	18	19	71%	89%	0.0	3.5	3.0
AS	AH	Theatre/Dance	THDN	12	4.7	3.5	4.5	0.3	0.2	4%	0.1	295	8%	2.7	28	24	88%	93%	0.0	1.9	3.2
AS	NS	A&S Nat Sci total	324	2.4	1.7	1.8	0.2	0.2	7%	4.4	321	1%	3.2	56	20	89%	94%	1.5	1.3	2.9	
AS	NS	Applied Math	APPM	12	3.0	1.9	1.9	0.4	0.2	4%	2.5	248	0%	3.2	37	21	76%	92%	1.4	3.5	4.9
AS	NS	Astro Plnt Sci	APS	19	2.0	1.7	1.6	0.2	0.3	0%	8.6	361	1%	3.0	75	10	94%	97%	2.9	1.1	4.5
AS	NS	Chem/Biochem	CHEM	38	1.7	1.3	1.7	0.3	0.2	8%	4.4	450	0%	3.5	81	40	88%	92%	3.0	1.6	5.2
AS	NS	Biology-Ecol/Ev	EBIO	30	2.5	1.7	1.8	0.3	0.3	4%	3.6	268	0%	3.2	52	19	93%	93%	0.7	0.9	2.0
AS	NS	Geography	GEOG	22	3.0	2.0	2.4	0.2	0.2	10%	3.6	436	1%	3.3	51	26	92%	94%	0.6	1.9	2.0
AS	NS	Geology	GEO	27	2.5	1.9	2.2	0.1	0.3	9%	4.3	378	2%	3.1	48	10	92%	97%	1.1	0.7	1.5
AS	NS	Int Physiology	IPHY	23	2.5	1.9	1.9	0.2	0.3	7%	2.7	302	0%	3.2	51	21	92%	93%	0.9	1.2	1.4
AS	NS	Mathematics	MATH	27	3.0	2.5	2.5	0.3	0.1	0%	0.4	217	0%	3.2	26	9	83%	96%	0.0	2.0	2.3
AS	NS	Biology-MCD	MCD	27	1.3	0.9	0.9	0.3	0.1	11%	4.7	175	0%	3.1	71	24	86%	88%	1.8	0.4	2.2
AS	NS	Atms Ocean Sci	PAOS	12	2.0	1.3	1.8	0.2	0.4	8%	4.1	388	0%	2.7	77	17	89%	96%	0.0	0.0	0.0
AS	NS	Physics	PHYS	40	2.0	1.7	1.9	0.2	0.2	2%	9.2	520	0%	3.2	87	16	91%	97%	3.5	1.1	5.2
AS	NS	Psychology	PSYC	46	3.0	1.7	1.6	0.2	0.1	17%	3.0	136	2%	3.0	24	20	79%	87%	0.7	1.0	1.8
AS	SS	A&S Soc Sci total	128	3.9	2.7	2.5	0.3	0.3	5%	0.9	410	1%	3.0	59	19	90%	95%	0.2	1.7	2.6	
AS	SS	Anthropology	ANTH	20	4.0	3.0	2.6	0.3	0.3	7%	1.3	424	0%	3.0	51	15	94%	97%	0.2	1.2	1.7
AS	SS	Communication	COMM	14	4.0	3.1	3.0	0.3	0.1	1%	0.1	398	1%	3.0	50	28	89%	93%	0.2	2.1	2.2
AS	SS	Economics	ECON	26	3.7	2.5	2.4	0.4	0.3	7%	0.5	373	0%	3.1	42	20	86%	95%	0.1	2.0	3.6
AS	SS	Ethnic Studies	ETHN	8	4.0	3.4	3.0	0.3	0.4	0%	0.0	362	2%	3.0	37	4	100%	99%	0.0	0.0	0.0
AS	SS	Linguistics	LING	6	3.5	2.3	3.0	0.2	0.3	8%	0.8	364	5%	2.9	42	29	76%	93%	1.2	2.5	5.2
AS	SS	Political Sci	PSCI	23	4.0	3.2	2.6	0.1	0.2	6%	0.5	570	0%	3.0	102	15	93%	97%	0.0	1.8	2.3
AS	SS	Spch/Lang/Hear	SLHS	10	3.9	1.8	1.8	0.5	0.5	12%	2.7	157	1%	3.0	32	29	62%	85%	0.5	1.0	3.3
AS	SS	Sociology	SOCY	19	4.0	2.1	2.2	0.5	0.6	3%	1.9	456	1%	2.9	73	22	92%	95%	0.3	2.1	3.2
BU		Leeds Business	BADM	52	4.0	2.7	2.4	0.2	0.4	7%	0.1	238	0%	2.9	31	7	79%	97%	0.6	0.2	0.9
EB		Education	EDUC	27	4.0	2.8	1.9	0.1	0.2	10%	1.5	134	0%	3.4	22	20	42%	87%	1.0	0.9	2.8
EN		Engin total	173	3.0	2.1	2.1	0.2	0.2	11%	3.9	236	0%	3.1	37	25	79%	91%	2.0	0.7	2.9	
EN		Aerospace Eng	ASEN	26	3.0	2.2	2.1	0.2	0.2	12%	5.2	236	0%	3.5	34	24	75%	91%	2.5	0.6	3.2
EN		Chem/Bio Eng	CHE	16	3.0	1.4	2.0	0.4	0.4	16%	8.4	232	2%	2.8	62	34	78%	87%	3.3	1.9	5.6
EN		Computer Sci	CSCI	31	3.0	2.0	1.7	0.3	0.3	18%	3.5	208	0%	3.2	36	27	78%	89%	1.5	0.5	2.7
EN		Civ/Env/Arch En	CVEN	35	3.0	2.0	2.6	0.2	0.2	13%	3.7	249	0%	2.9	31	27	77%	90%	2.1	0.7	2.5
EN		Elec/Comp Eng	ECEN	39	3.0	2.8	2.1	0.0	0.1	1%	2.6	200	0%	3.4	25	21	79%	91%	2.0	0.7	2.9
EN		Mechanical Eng	MCEN	21	3.0	1.7	2.1	0.2	0.2	14%	3.1	354	0%	2.9	61	24	83%	94%	1.4	0.6	2.3
JR		Journalism	JOUR	24	4.0	2.6	3.2	0.2	0.3	11%	0.2	195	6%	3.0	20	17	81%	92%	0.0	1.4	1.1
LW		Law	LAWS	32	4.0	2.6	2.6	0.3	0.4	10%	0.0	298	0%	3.0	39	10	0%	97%	0.0	0.0	0.0
MB		Music	MUSC	51	4.0	3.5	3.7	0.1	0.2	1%	0.0	167	27%	2.2	21	16	82%	91%	0.0	0.3	2.3

DISPLAY 11 Distribution of departments over measures of size, expected loads, factors affecting expected loads, and instructional activity

See Display 10 for the actual values of each variable and for department names and codes. All values are departmental averages per tenured and tenure-track faculty member except as noted.

See column headers on Display 10 for a list of the 18 displays in this section (11.1-11.18).

11.1 Number of tenure and tenure-track faculty

								JOUR							
SLHS				ASEN											
LING				EDUC											
ETHN		CHEN		PSCI											
SPAN		COMM		ECON											
RLST		PAOS		MCEN		MCDB									
GSSL		APPM		SOCY		MATH		LAWS		ECEN		MUSC			
FILM		THDN		ANTH		IPHY		CSCI		CVEN		BADM			
EALC		PHIL		GEOG		GEOL		EBIO		PHYS		PSYC			
CLAS		FRIT		APS		AAAH		HIST		CHEM		ENGL			
6-12		12-18		18-23		23-29		29-35		35-41		41-46		46-52	

11.2 Dept EXPECTED organized course load STANDARD

						MUSC	
						LAWS	
						JOUR	
						EDUC	
						BADM	
						SOCY	
						SLHS	
						PSCI	
						ETHN	
						COMM	
						ANTH	
						SPAN	
				MCEN		RLST	
				ECEN		PHIL	
				CVEN		HIST	
				CSCI		GSLI	
				CHEN		FRIT	
				ASEN		FILM	
	PHYS	IPHY		PSYC		ENGL	
	PAOS	GEOL		MATH		EALC	
	CHEM	EBIO		GEOG	LING	CLAS	
MCDB	APS			APPM	ECON	AAAH	THDN
1.3-1.7	1.7-2.1	2.1-2.6	2.6-3.0	3.0-3.4	3.4-3.8	3.8-4.3	4.3-4.7

11.3 Dept EXPECTED organized course load AVERAGE ADJUSTED

							MUSC
							PSCI
							ETHN
			CVEN				THDN
		MCEN	CSCI		LAWS		SPAN
		SLHS	SOCY	ASEN	JOUR	COMM	RLST
		PSYC	IPHY	LING	ECEN	ANTH	FRIT
	CHEN	PHYS	GEOL	ECON	EDUC	PHIL	EALC
	PAOS	EBIO	GEOG	MATH	BADM	FILM	CLAS
MCDB	CHEM	APS	APPM	HIST	GSLI	ENGL	AAAH
0.9-1.3	1.3-1.6	1.6-1.9	1.9-2.2	2.2-2.6	2.6-2.9	2.9-3.2	3.2-3.5

11.4 Dept ACTUAL organized course load AVERAGE

		MCEN					
		ECEN					
		CHEN					
		ASEN	LAWS				
		EDUC	CVEN				
		SOCY	BADM				
		SLHS	PSCI	LING			
		PHYS	ECON	ETHN			
		PAOS	ANTH	COMM			
	CSCI	IPHY	MATH	SPAN	JOUR		
	PSYC	GEOL	GEOG	PHIL	GSLI	MUSC	
	CHEM	EBIO	HIST	ENGL	FRIT	RLST	
MCDB	APS	APPM	EALC	CLAS	FILM	AAAH	THDN
0.9-1.4	1.4-1.8	1.8-2.3	2.3-2.7	2.7-3.1	3.1-3.6	3.6-4.0	4.0-4.5

11.5 Terms with any type of leave

				LAWS			
				CSCI			
		CVEN	JOUR	COMM			
		BADM	MCEN	ANTH			
		LING	ASEN	MCDB			
		PHYS	ETHN	MATH	CHEN		
	MUSC	PAOS	PSYC	EBIO	ECON		
ECEN	PSCI	IPHY	CHEM	EALC	HIST	APPM	
EDUC	GEOL	GEOG	THDN	CLAS	FILM	PHIL	SOCY
FRIT	RLST	APS	SPAN	AAAH	ENGL	GSLI	SLHS
0.03-0.09	0.09-0.15	0.15-0.21	0.21-0.28	0.28-0.34	0.34-0.40	0.40-0.46	0.46-0.53

11.6 Terms with any administrative appointment

		CVEN	MUSC									
		EDUC	MCEN	JOUR								
		PSCI	CSCI	CHEN								
		PHYS	ECON	LING								
		GEOG	ANTH	ETHN								
	ECEN	CHEM	IPHY	GEOL								
	ASEN	APPM	RLST	EBIO	LAWS							
	COMM	THDN	PHIL	APS	BADM							
MATH	PSYC	SPAN	ENGL	HIST	PAOS						SOCY	
EALC	MCDB	CLAS	AAAH	FRIT	GSSL	SLHS	FILM					
0.00-0.08	0.08-0.16	0.16-0.24	0.24-0.32	0.32-0.39	0.39-0.47	0.47-0.55	0.55-0.63					

11.7 Deviation from full time, 100% general fund

MUSC												
ECEN												
ETHN												
COMM												
PHYS			BADM									
MATH			PSCI									
APS			ECON		LAWS							
RLST			ANTH		JOUR							
PHIL			IPHY	LING	ASEN							
FRIT	SOCY		HIST	PAOS	EDUC							
FILM	EBIO	GSSL	GEOL	SLHS			CSCI					
CLAS	APPM	ENGL	CHEM	MCDB	MCEN	CHEN						
AAAH	THDN	EALC	SPAN	GEOG	CVEN	PSYC						
0% 3%	3% 5%	5% 8%	8% 10%	10% 13%	13% 15%	15% 18%						

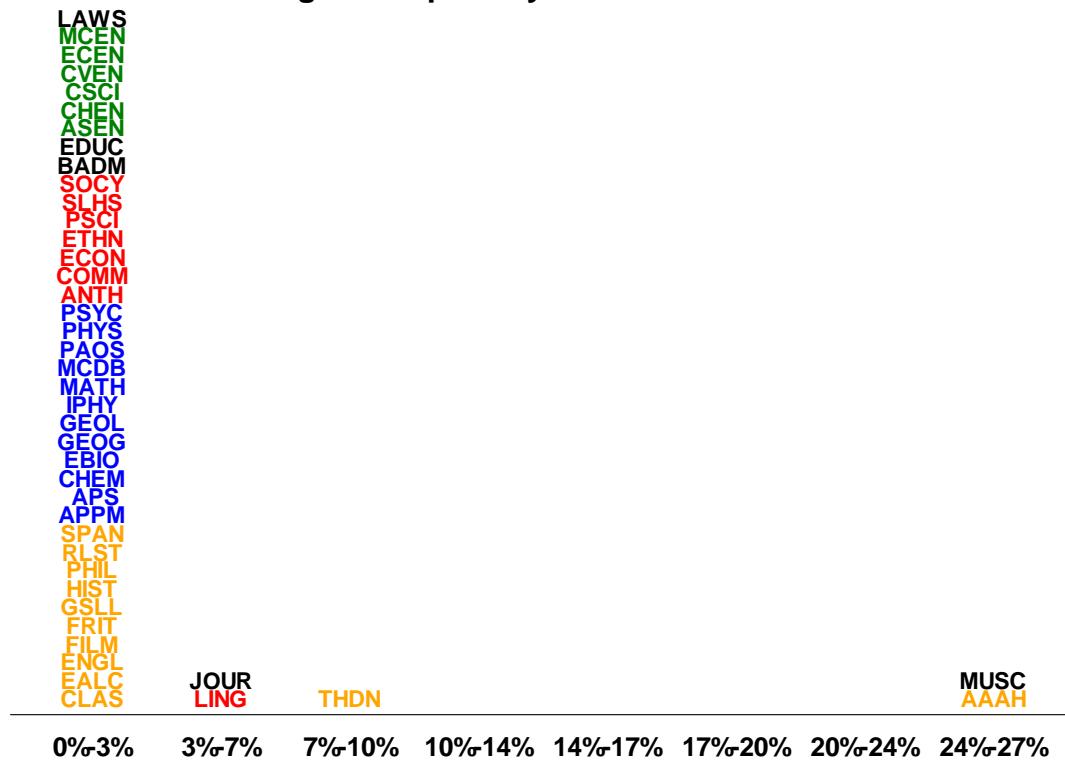
11.8 Sponsored research projects per faculty member

MUSC							
LAWS							
JOUR							
BADM							
PSCI							
ETHN							
COMM				MCEN			
MATH				ECEN			
THDN				CVEN			
SPAN				CSCI			
RLST				SLHS			
PHIL				PSYC			
HIST				PAOS			
GSLI				IPHY			
FRIT				GEOL			
FILM				GEOG			
ENGL	LING	EDUC		EBIO			CHEN
CLAS	ECON	SOCY		CHEM	ASEN		PHYS
AAAH	ANTH	EALC		APPM	MCDB		APS
0-1	1-2	2-3	3-5	5-6	6-7	7-8	8-9

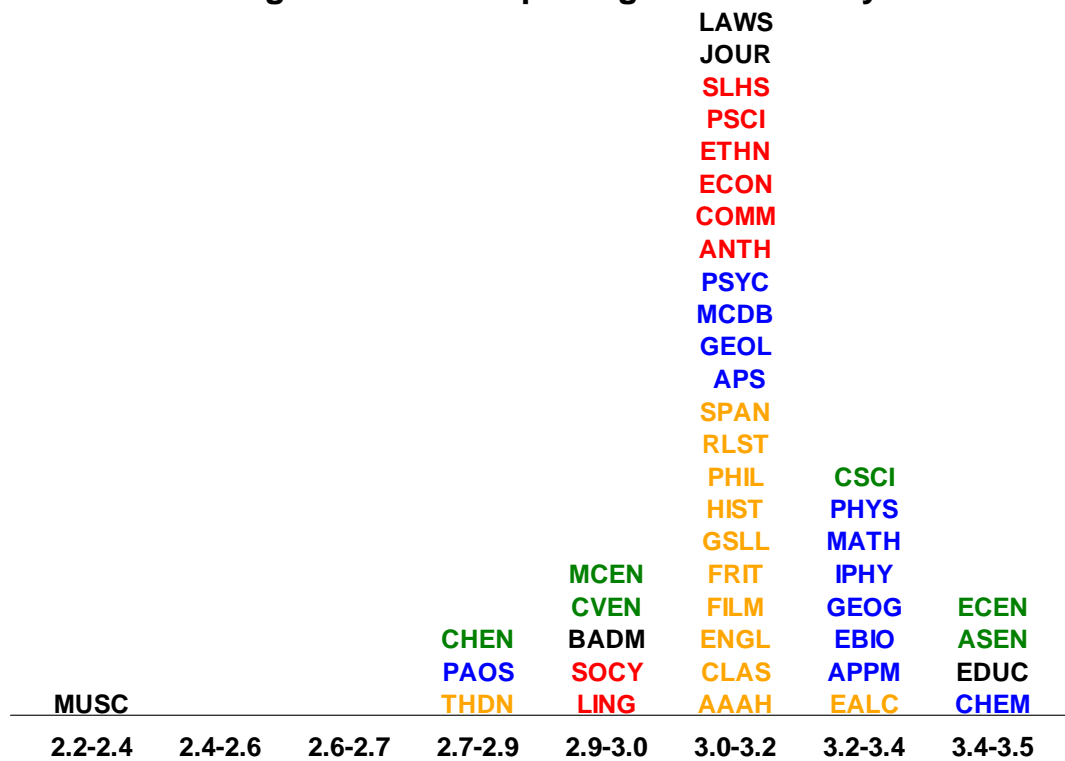
11.9 Average student credit hours (SCH) in organized primary sections

				MCEN			
				LING			
	JOUR			ETHN			
	ECEN			ECON			
MUSC	CSCI			COMM			
EDUC	CHEN			PAOS			
SLHS	ASEN			GEOL	SOCY		
PSYC	BADM	CVEN	LAWS	APS	ANTH		
MCDB	MATH	EBIO	IPHY	PHIL	GEOG		PSCI
SPAN	FRIT	APPM	GSLI	HIST	CHEM		PHYS
EALC	ENGL	THDN	AAAH	CLAS	FILM		RLST
134-188	188-243	243-297	297-352	352-406	406-461	461-515	515-570

11.10 Percent of organized primary SCH that is hands-on instruction



11.11 Average credit hours per organized primary section



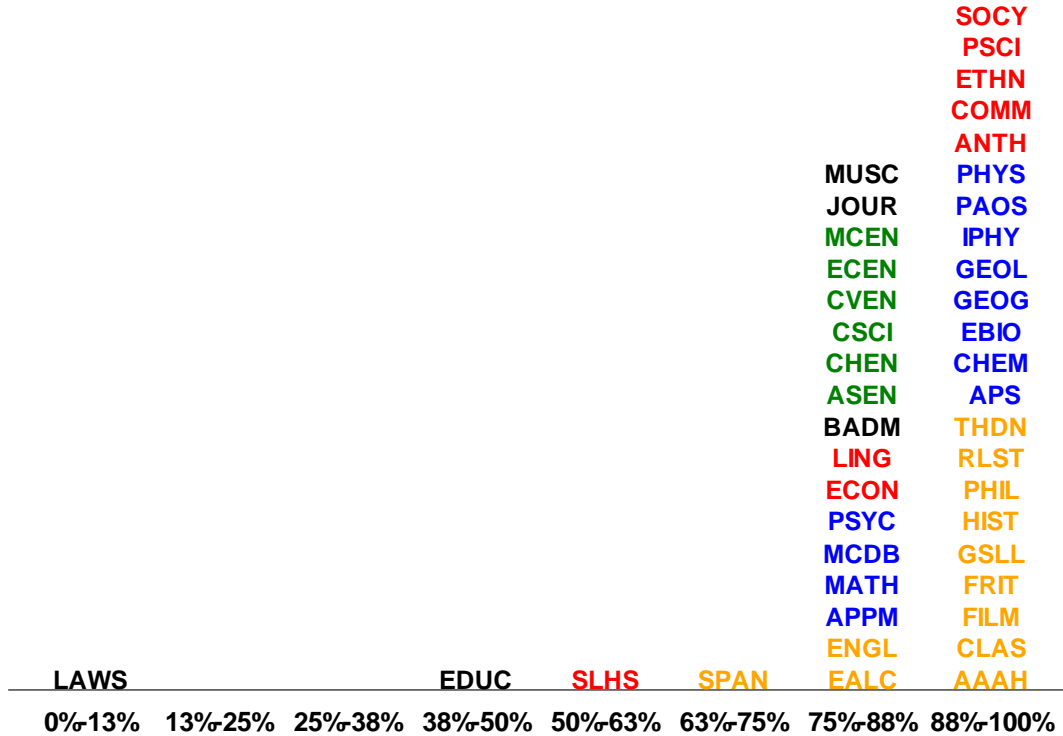
11.12 Average enrollments per organized primary section

	CVEN						
	CSCI						
	ASEN						
MUSC	BADM						
JOUR	SLHS						
ECEN	ETHN		COMM				
EDUC	APPM	LAWS	ANTH				
PSYC	THDN	LING	IPHY				
MATH	GSLL	ECON	GEOG		SOCY		
SPAN	FILM	GEOL	EBIO		PAOS		
FRIT	EALC	RLST	PHIL	MCEN	MCDB	PHYS	
ENGL	AAAH	CLAS	HIST	CHEN	APS	CHEM	PSCI
18-28	28-39	39-49	49-60	60-70	70-81	81-91	91-102

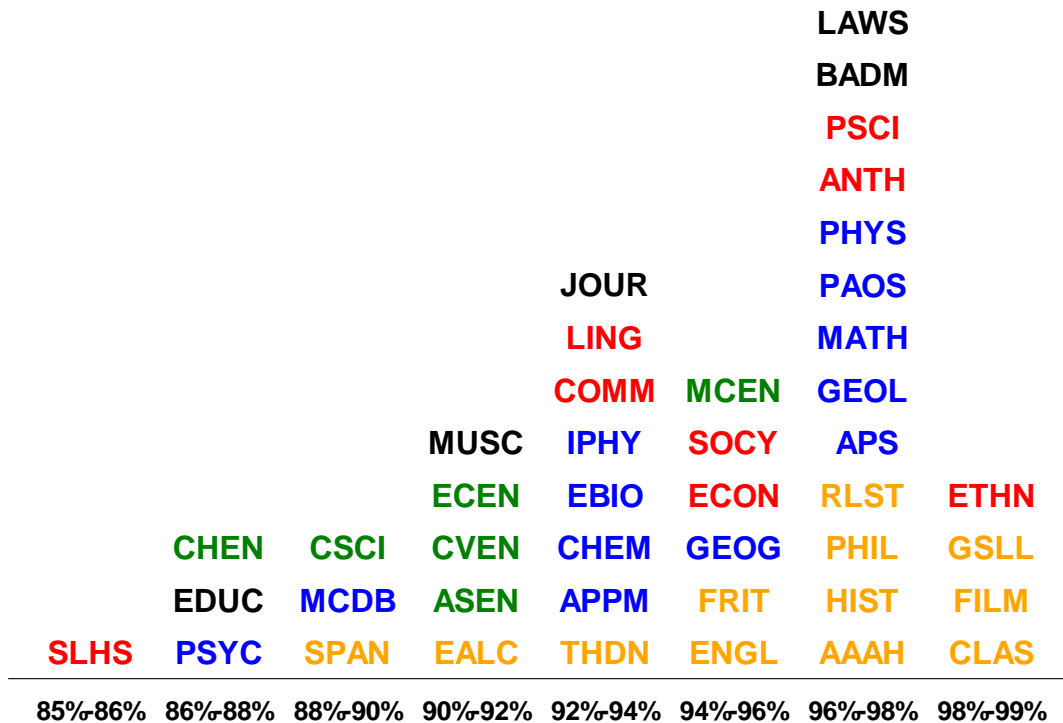
11.13 Average independent instruction student credit hours (SCH)

	LAWS	MUSC	JOUR	MCEN			
	BADM	PSCI	EDUC	ECEN			
	MATH	ANTH	ECON	ASEN	CVEN		
	GEOL	PHYS	PSYC	SOCY	CSCI		
	APS	PHIL	PAOS	MCDB	SLHS		
ETHN	ENGL	HIST	EBIO	IPHY	LING		
GSLL	CLAS	FRIT	SPAN	APPM	COMM		
FILM	AAAH	EALC	RLST	THDN	GEOG	CHEN	CHEM
3-7	7-12	12-17	17-21	21-26	26-31	31-35	35-40

11.14 Percent of total student credit hours that is undergraduate



11.15 Percent of total student credit hours that is organized instruction



11.16 Number of graduate research assistants per faculty member

MUSC							
LAWS							
JOUR							
SOCY							
PSCI							
ETHN							
ECON							
COMM							
ANTH							
PAOS							
MATH							
THDN							
SPAN							
RLST							
PHIL							
HIST							
GSSL							
FRIT							
FILM	BADM						
ENGL	SLHS	EDUC					
EALC	PSYC	LING	MCEN	ECEN			
CLAS	GEOG	IPHY	CSCI	CVEN		CHEM	CHEN
AAAH	EBIO	GEOL	APPM	MCDB	ASEN	APS	PHYS
0.0-0.4	0.4-0.9	0.9-1.3	1.3-1.8	1.8-2.2	2.2-2.6	2.6-3.1	3.1-3.5

11.17 Number of graduate teaching assistants per faculty member

		EDUC					
		SLHS					
		ANTH		CHEN			
		PSYC		SOCY			
		PHYS		PSCI			
	MCEN	IPHY		ECON			
MUSC	ECEN	EBIO		COMM			
LAWS	CVEN	APS	JOUR	MATH			
BADM	CSCI	HIST	CHEM	GEOG			
ETHN	ASEN	GSSL	PHIL	THDN			
PAOS	MCDB	CLAS	FRIT	RLST			APPM
FILM	GEOL	AAAH	ENGL	EALC	LING		SPAN
0.0-0.4	0.4-0.9	0.9-1.3	1.3-1.8	1.8-2.2	2.2-2.6	2.6-3.1	3.1-3.5

11.18 Number of majors in terminal degree pgms (doc + MFA) per fac member

MUSC							
LAWS		ANTH	MCEN				
ETHN		PSYC	CVEN	ECEN			
PAOS		IPHY	CSCI	ASEN			
RLST		GEOL	PSCI	EDUC			CHEN
GSSL	JOUR	GEOG	COMM	SOCY			LING
FILM	BADM	EBIO	MCDB	SLHS			PHYS
EALC	FRIT	HIST	MATH	THDN			CHEM
CLAS	ENGL	AAAH	PHIL	SPAN	ECON	APS	APPM
0.0-0.7	0.7-1.4	1.4-2.1	2.1-2.8	2.8-3.5	3.5-4.2	4.2-4.9	4.9-5.6

Appendix to accompany

Teaching loads of tenured and tenure track faculty

Lou McClelland and Dave Deffenbacher

CU-Boulder Planning, Budget, and Analysis, March 2006

Further details on measures discussed in the paper

- Time period. This paper covers activity occurring during the 2004-05 academic year (fall and spring terms). The exceptions are counts of sponsored research projects and faculty activities reported in the Faculty Report of Professional Activities (FRPA). See the table below for the time periods used.
- Data sources and extract time points for each term
 - All analyses here use data available from campus central records only. The following shows these data sources and the dates on or during which data were captured for each term. Snapshots refer to data captured as of a single time point. Activity refers to any activities occurring or active during the specified time period.

Data source	Fall 2004	Spring 2005
Student Information System (SIS)	January 21, 2005 snapshot (standard "end of term" date)	June 6, 2005 snapshot (standard "end of term" date)
PeopleSoft payroll/human resources (HRMS)	October 1, 2004 snapshot	May 1, 2005 snapshot
Academic Affairs faculty rosters	October 1, 2004 snapshot	October 1, 2004 snapshot (no separate snapshot for spring available)
Faculty Information System (FIS) maintained by Faculty Affairs	Activity between Sept 30, 2004 and Dec 31, 2004	Activity between Jan 1, 2005 and May 15, 2005
PeopleSoft general ledger, sponsored project definitions	All projects active any time between July 1, 2004 – June 30, 2005 (fiscal year 2004-05). Project definition taken from end of the fiscal year.	
Faculty Report of Professional Activities (FRPA) collected by Faculty Affairs	Edited calendar year 2003 activities if available, unedited 2004 if not. Collection deadlines were in February of the year following the activities.	

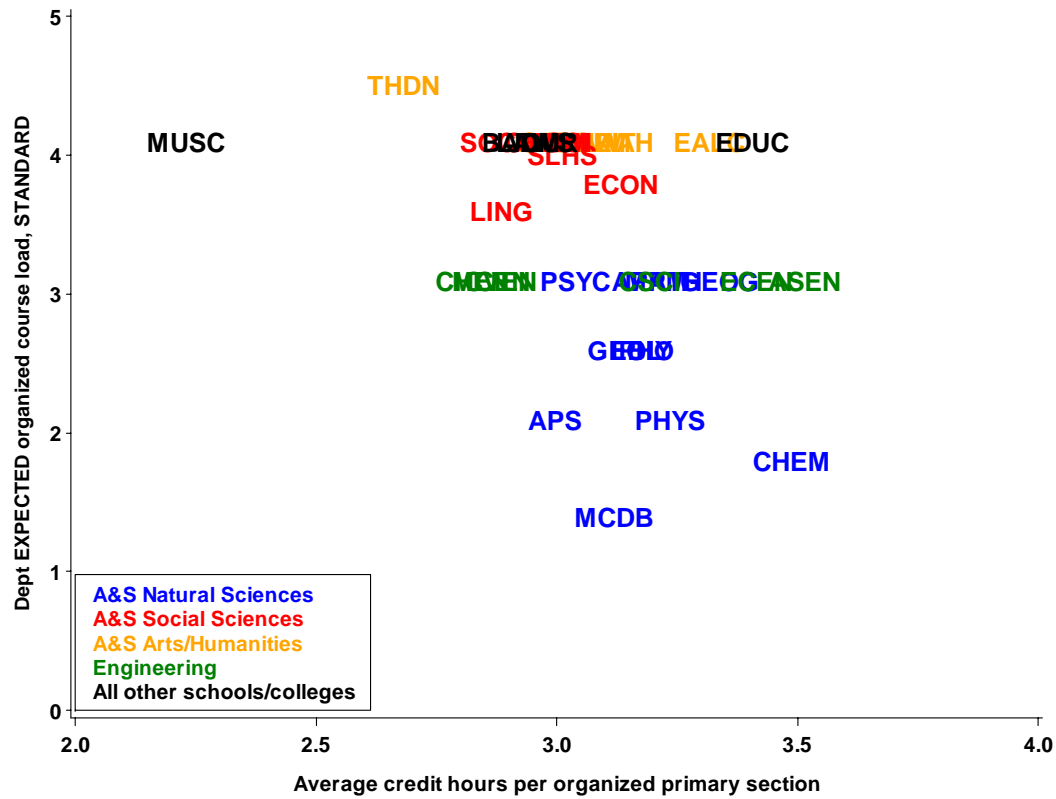
- Faculty population
 - Includes all tenured/tenure track (TTT) faculty rostered at UCB fall 2004 and spring 2005 except library faculty, who have no regular teaching responsibilities. Individuals had to be rostered with TTT status both terms to be included.
 - Tenured/tenure track status for fall comes from faculty rosters maintained by Academic Affairs, with overrides for three faculty listed as TTT fall 2004 who should not have been. In spring, TTT is determined from a combination of the fall academic affairs snapshot and job titles of appointments active on PeopleSoft HRMS in the spring.
 - This includes individuals with job titles other than or in addition to "professor," including the provost, deans, and institute directors.
 - Throughout the paper, "faculty" means these 1,013 tenured and tenure track faculty members.
- Organizational units -- department, college, and A&S cluster
 - Throughout the paper faculty are associated with the department responsible for their tenure decisions (tenure department). Tenure department comes from the Faculty

Information System (FIS). This is usually but not always the same as PeopleSoft HRMS roster department; the two differ most for those rostered in interdisciplinary institutes, programs, and centers, none of which independently award tenure.

- Eight of the 1,013 individuals in the analysis have two tenure departments. For this analyses each was considered only in the first department listed on FIS. The two departments for each individual are shown below with the analysis department first

CHEMICAL AND BIOLOGICAL ENGIN	CHEMISTRY
CHEMISTRY	CHEMICAL AND BIOLOGICAL ENGIN
CLASSICS	DEPT OF ART AND ART HISTORY
COMPARTIVE LIT&HUMANITIES DEPT	ENGLISH
EAST ASIAN LANG & CIVILIZATION	RELIGIOUS STUDIES
FRENCH & ITALIAN	LINGUISTICS
GEOGRAPHY DEPARTMENT	ENVIRONMENTAL STUDIES
GEOLOGICAL SCIENCES	ENVIRONMENTAL STUDIES

- Tenure college and tenure cluster (A&S associate dean area) are derived from tenure department. Only Arts and Sciences has clusters: Arts and humanities, natural sciences, social sciences.
- Department standard expected load
 - For purposes of this analysis the department standard expected load is expressed as a number of organized primary course sections per academic year (see below for a definition). Independent study, dissertation supervision, and supervision of other independent work are not included.
 - PBA obtained expected loads for departments from the Arts and Sciences budget office and through Faculty Affairs for other colleges.
 - Where the standard load differs by discipline within a department, Arts and Sciences has produced a “blended” standard rate by appropriate weighting of the different standard loads.
 - For example, the Department of Chemistry has two disciplines, Chemistry and Biochemistry, which have different standard loads. The standard rate for the department is therefore 1.7 organized sections per year, a weighted average of the loads for the two disciplines.
 - As another example, MCD Biology has a standard expected load that ranges between 1 and 2. The standard load used for this analysis was 1.7.
 - Display 2 discusses relationships between department standard expected load and other factors. The following plots show relationships mentioned in that section but not plotted. See the paper for details.



- Adjustments to expected load for an individual
 - These adjustments correspond to the rectangular boxes in the left section of Display 3. They are discussed in the order they appear in the display. Refer to the display for information on how these adjustments were applied.
 - A note on the “number of terms” measures that follow: leave, officer appointments, other administrative appointments, and phased retirements are all expressed as number of terms (semesters) in the situation, with a maximum of two for the year. In all cases, a single individual could have zero, one, or two terms. Averages thus show the average number of terms per person per academic year.
 - Example: 100 TTT faculty are on appointment for 200 terms in the year. If 10 are on leave for two terms, and 5 are on leave for one term, that’s 25 total terms of leave and $25 / 100$ individuals = 0.25 average terms of leave per person per academic year.
 - Terms with paid and unpaid leave. Data on leaves come from two sources.
 - From the “events” database in the FIS we selected all leave events (paid leave (and the reason for it), sabbatical, faculty fellowship) active for any time during the fall or spring terms.
 - We then combined this with the faculty member’s employment status from fall and spring snapshots of PeopleSoft HRMS. PeopleSoft employment status takes on three values – active, leave with pay, and leave without pay. PeopleSoft is the exclusive data source for leave without pay (e.g., Semester at Sea).
 - Similar information in the two systems does not match perfectly, and some information can be found only on FIS. We therefore labeled the individual on leave in a term if either source showed any type of leave for any part of that term.
 - The result is a count of number of terms of leave in the year (0-2).
 - Terms with officer appointments: Chancellor, VC’s, associate VC’s, deans. These were determined from job classes of all appointments active for fall or spring in PeopleSoft HRMS. The result is a count of the number of terms in the year in any of these appointments (0-2).
 - Terms with other administrative appointments: deans, assistant/associate deans, chairs, associate chairs, faculty directors, institute directors. These come from a combination of FIS and PeopleSoft data.
 - Appointments active during the fall or spring terms were extracted from the FIS events database. These were combined with similar appointment data from the fall and spring PeopleSoft HRMS. Job titles for all active Boulder appointments for an individual were examined (individuals with administrative appointments in the CU System office have no Boulder percent time or salary and are therefore covered under course buyouts).
 - As with the leave data, FIS and PeopleSoft do not match perfectly (in part due to a few unpaid administrative appointments found only in FIS). We therefore labeled the individual on an administrative appointment in a term if either source showed one of these appointments for any part of that term.
 - The result is a count for the year of the number of terms in any of these appointments (0-2).
 - Terms with phased retirement agreements. From the FIS events database, fall and spring. The result is a count for the year of the number of terms with a phased retirement agreement (0-2).
 - Courses “bought out” with reductions in percent time and/or salary paid by other than the general fund.

- “Buyout” is used generically here to cover all situations where the faculty member is less than full-time for any of the academic year, and/or less than 100% of the salary comes from the general fund. All such situations bring some reduction in the expected teaching load. The term “buyout” is used more narrowly by the A&S budget office, usually to mean temporary reductions of teaching expectation by a full course section or more. In this analysis we have not differentiated permanent vs. temporary funding assignments or reductions in time.
- Total deviation from full time, 100% general fund. This is a single measure for the academic year that combines two separate factors
 - Percent of full time
 - We first calculated a total PeopleSoft percent time for each term by summing the percent time from all appointments. We did NOT use PeopleSoft FTE figures.
 - Separately for each term, we then took the minimum of percent time on PeopleSoft HRMS for the term and percent time on Academic Affairs faculty rosters.
 - This gave a single percent time figure for each term. The vast majority were 100% time both terms. A handful show in records as zero or missing percent time both terms. While this may reflect oddities in the appointments data, it almost certainly also reflects oddities in the actual appointment situation.
 - Percent of salary paid by the general fund. From PeopleSoft HRMS for each term, all appointments combined.
 - Non-general fund sources included any combination of sponsored/grant, gift, auxiliary, or other funding. Grants were the largest single source, though auxiliary and gift funds also contributed substantially.
 - Over 80% were 100% general fund both terms.
 - We then combined percent full time and percent general fund from each term into a single “general fund full time equivalent (GFFTE)” for the academic year, as follows.
 - For each term we first calculated the term GFFTE as the percent of full time multiplied by percent of salary paid by the general fund.
 - Reductions in percent time or percent salary for the general fund were recorded somewhat inconsistently across terms, based on comparisons to a separate list of course buyouts maintained by A&S. Examples
 - An individual on a 75% appointment for the entire year sometimes appeared as 100% time in the fall and 75% time in the spring.
 - Some replacements of general fund salary from other sources were booked as 100% general fund one term (usually fall), X% in the other term, where the average of 100 and X equals the appropriate percentage.
 - Therefore, if the individual was less than full time in either the fall or spring term we took the minimum of the GFFTE for the two terms to yield the academic year GFFTE. However, if the individual was full time both terms we took the average of the GFFTE for the two terms. This calculation provided the best match to examples from the A&S buyout list. Both the A&S budget office and Faculty Affairs agreed with our approach.
- Course buyouts. We used the academic year general fund FTE (GFFTE) described above to calculate the number of course sections bought out in the year
 - We first calculated the “buyout rate” (percent reduction necessary to buy out a single course section) using the A&S budget office method:

$$40\% \text{ (teaching portion of standard 40-40-20 contract) } / \text{ department standard expected course load} =$$

% reduction in GFFTE necessary to buy out a single course section
The buyout rate is represented by "X%" in Display 3.

- The individual's "credits" toward buy outs were calculated as 1 – academic year GFFTE. This is the total deviation from full time, 100% general fund for the year.
 - The number of course sections bought out in the year is then buy out credits / buy out rate. For example, a full-time faculty member with 80% of salary from the general fund for the year (0.8 GFFTE, 0.2 "credits") and a standard department expected load of 4 course sections would buy out of 2 course sections for the academic year.
 - We applied this method to faculty in all departments, schools, and colleges.
- Measures of instructional activity (Display 8)
 - General notes
 - All measures are derived from fall and spring courses with enrollment listed on the Student Information System (SIS). Only Boulder main campus courses were included (no continuing education or extended studies) and only students enrolled through Boulder main campus were counted in enrollment and student credit hours measures.
 - All instructors of record listed on SIS were included. For sections with multiple instructors, section counts and student credit hours were adjusted by the percent responsibility recorded on SIS for each instructor. For example, for two instructors, each with 50% responsibility for the section, each instructor would get one-half section in the section counts and one-half of the associated student credit hours.
 - Sections listed as combined on SIS (the same course listed under different course subjects or numbers) are counted only once.
 - We also count as a single section some that appeared to be combined (multiple sections with same meeting time, place, and instructor) but were not marked as such on SIS. Thirty-four sets of sections fell into this category.
 - Actual teaching load
 - Course sections can be classified as primary vs. secondary and organized vs. independent instruction. Actual teaching load was defined as number of organized primary sections taught in the academic year.
 - Secondary sections are the mandatory, non-credit lab, recitation, and practicum sections linked to many lectures. These have SIS activity types (method of instruction) LAB, REC, and PRA.
 - Independent sections involve individually scheduled supervision of independent scholarly activity, including both undergraduate and graduate supervision.
 - All course sections with SIS activity types Dissertation (DIS) and Independent Study (IND) are classified as independent instruction. These include dissertations, master's theses, undergraduate theses, and other independent projects.
 - Other course sections with fewer than three enrollments are also considered independent instruction. By definition, independent instruction involves this type of individualized, small group or one-on-one interaction. These small sections also tend to have course titles, meeting times, and other characteristics that make them appear like other independent instruction courses, even though they do not fall into the above activity types. They occur most frequently in Music and Chemistry. We count them as

- independent to avoid inappropriately inflating the organized section count for these disciplines.
- All other course sections are classified as organized primary instruction. These involve group instruction in credit sections with substantial scheduled meeting time. The majority of these are lecture and seminar courses (SIS activity types LEC and SEM). Examples include
 - PHYS2010, section 100, General Physics I. Five credit undergraduate lecture course with over 300 students. Students are also enrolled in one of 16 lab (secondary) sections taught by TA's that are supervised by the faculty member.
 - ENGL5009, section 001, Critical Analysis. Three credit graduate seminar with 15 students, no associated lab or recitation sections.
 - EMUS1307, section 001. One credit undergraduate elective music studio (Symphonic Band).
 - CHEM5776, section 001. One credit graduate seminar (Scientific Conduct).
 - Note that the organized vs. independent classification used here may vary substantially from that used in prior PBA analyses.
 - Other instructional measures
 - Student credit hours (SCH) in organized primary sections. This is the total student credit hours (credit hours x enrollments) for all organized primary sections taught by the instructor during the year. It gives an overall measure of the number, size, and credit hours of these sections, thereby capturing more information about total instructor workload than sections, credits, or enrollment alone.
 - Many different scenarios can yield the same total SCH – e.g., four, three credit sections of 30 students gives 360 SCH, the same as a single three credit section with 120 students.
 - Average SCH per organized primary section. This is a measure of the average size times credit hours of organized sections taught. It is calculated as total organized primary section SCH divided by number of organized primary sections for the instructor.
 - Average SCH can vary dramatically between departments/disciplines and among instructors within a department (e.g., larger, higher credit courses in the sciences and among instructors teaching large undergraduate lectures).
 - Average credit hours per organized primary section. Measures the average credits earned by students for the instructor's sections, ignoring course enrollment.
 - For example, if an instructor taught three organized primary sections worth 3, 4, and 5 credits, this measure would show an average of four credits per section.
 - NOT the same as average student credit hours, which does take enrollment into account.
 - Average number of students enrolled in organized primary sections. A traditional measure of class size. Total organized primary section enrollments divided by number of organized primary sections.
 - SCH involving "hands-on" instruction in organized primary sections. Hands-on is a PBA designation developed for this project.
 - A subset of organized primary sections involves hands-on teaching and guidance during the scheduled meeting time. For both the instructor and the students, these hands-on sections involve different outside class preparation and grading methods. They also may be considered differently in departmental teaching assignments.

- We classified the following activity types as hands-on: Studio (STU), Music Studio (MST), Research (RES), Workshop (WKS), Practicum (PRC), Private Instruction (PRI), Main Lab Section (MLS), Field Supervision (FLD), and Internship (INT). We also included all performance music courses (course subject PMUS) since all were studio-type courses and activity types were used inconsistently.
- Note that this measure is preliminary and incomplete, and should only be used as an approximation. It likely omits some truly hands-on activity due to inconsistent coding in SIS.
- SCH in independent primary sections. Same as total organized primary section SCH, but for sections classified as independent instruction.
- Secondary section “points.” While most secondary sections are taught by teaching assistants, some are taught by tenured/tenure track faculty. These include some labs in engineering and recitations associated with undergraduate honors courses. Since these are not included in the primary section counts we created a separate measure to capture this teaching activity. For each instructor we’ve counted each linked lab, recitation, or practicum section taught, with a maximum of one per eight-digit course ID in a term. For example, in a given term, if CHEM1234 has a lecture and four associated labs, and a tenured/tenure track instructor teaches two of the labs, he/she will receive one point. If the same person also teaches a single lab for CHEM3456, he/she would receive another point (total of two).
- Additional instructional measures derived from the above
 - Percent of organized instruction SCH that are hands-on. SCH from organized primary sections using hands-on instruction divided by total organized SCH.
 - Total student credit hours taught. Organized plus independent SCH.
 - Percent of total SCH that are undergraduate. Total undergraduate SCH (organized and independent) divided by total SCH.
 - Percent of total SCH that are organized instruction. Organized primary section SCH divided by total SCH.
- Other factors examined with respect to load reductions
 - Sponsored projects: to flag faculty members listed as principal investigators (PI's) on sponsored projects, all projects active in the fiscal year were pulled from the PeopleSoft General Ledger project definitions. The term “project” is used here in the PeopleSoft technical sense: a group of related expenses for activities that have a limited time span and that are paid from non-general-fund sources (grants, gifts, etc.). If information about a project changed during the year, data was taken from the definition active at the end of the year. Projects of all types were counted, including grants, fellowships, training grants, contracts, and others. All listed PI's were included; project counts and award amounts are split between the listed PI's.
 - Several measures derived from the Faculty Report of Professional Activities (FRPA), such as number of refereed publications (articles, chapters, etc.)
 - FRPA data are based on calendar year, not academic year. Because edited and final data are not yet available for 2004 or 2005, we’ve used calendar year 2003 activities where available for the individual. If no 2003 data were available (hired since 2003, did not complete the collection, etc.), we used unedited 2004 reports.
 - FRPA counts are of separate entries made by the faculty member. We've grouped these into categories based on the FRPA activity type code associated with the entry. This method does not measure the size or scope of the activity. Also, if the

- faculty member entered two activities on one row (e.g., two book chapters), this would count as one entry, not two.
- Comparisons among individuals within a department on sponsored projects and FRPA measures
 - When examining possible relationships between these measures and expected or actual load we checked not only for relationships between departments (department averages) but also for relationships over individuals within departments.
 - Within-department relationships were examined by calculating, for each faculty member, the number of standard deviations away from the department average the individual is on a given measure. This is otherwise known as a Z-score, a standard method for normalizing variation across analysis groups or measures.
 - PBA file references
 - Paper
 - L:\IR\facstaff\FacLoad\Report.doc, Measures.vsd, Display10.xls
 - Appendix: L:\IR\facstaff\FacLoad\Appendix.doc
 - Analyses
 - L:\IR\facstaff\FacLoad\prep*.sas and show*.sas