

## **UNIVERSITY LIBRARY COMMITTEE**

Minutes: March 12, 2010

The meeting was called to order at 3:40pm by Chair Stephanie Christelow. Others in attendance were Nancy Devine, Lance Erickson, Kay Flowers, Cathy Gray, Andrew Holland, Vitit Kantabutra, Pamela Knight, Linda Leeuwrik, Shalene Summers, Jean Thomas, Neil Tocher, and Charles “Rick” Williams. Glenda Car was excused. Guests in attendance were Sandra Shropshire, Leonard Hitchcock, Marcia Francis, and Jim Teliha.

### **APPROVE MINUTES:** January 22, 2010

Nancy Devine moved to approve the minutes, and Rick Williams seconded the motion, which was approved unanimously.

### **OLD BUSINESS:**

#### 1. Friends Of Oboler Library Mini-golf fundraiser --Flowers

Kay described the fundraiser FOOLs is putting together. They have four sponsors now, at \$250/hole. Other sponsorships for prizes, tee, hole, refreshments are being sought. Kay has letter requesting sponsorship and brochures were distributed. This was originally going to be in February, but will happen on Saturday, April 10.

#### 2. Breakfast Meeting on Saturday, April 17, 9:00 – 11:30 AM—Flowers

As per the vote via e-mail, the planning meeting will be on Saturday morning at Elmer’s on 5<sup>th</sup> St. Kay and Stephanie suggested the agenda include

- strategic planning
- select a new chair of the ULC
- decide what issues to leave for next year’s committee.

Other suggestions for the agenda include

- a discussion of what the library should be like;
- ideas to present in the Learn Something Quick mini-sessions at the beginning of the semester, such as teaching digital natives by non-digital faculty
- teaching Library 121 again (used to be done as 8-week class during last part of semester)

Kay will invite the Associate University Librarians Sandra Shropshire, Jim Teliha and Janet Higgins. She will also ask Jenny Semenza and Spencer Jardine to attend for a discussion of the instruction program

### **NEW BUSINESS:**

#### 1. Allocation formulas--Shropshire:

Sandra Shropshire had distributed a “Report on Development of Allocation Formula for Distribution of Library funds” via e-mail to the ULC members, and she thanked Leonard Hitchcock and Teri Peterson for their help in developing the formula. In addition, Sandra distributed handouts of draft reports showing the budget calculations to determine the book and journal allocations for the university departments and explained them. Also, the “General

Education Program Assessment Plan” was presented, which describes goals and objectives from the university catalog.

The undergraduate core allocation is determined independent of the number of students in any program. However, faculty and graduate FTE does weigh-in on the allocation formula. The goal is to purchase eight percent of all books published on academic level for each discipline for programs offered at ISU.

Stephanie Christelow asked how this works with interdisciplinary programs. Sandra explained that the faculty and graduate students are counted as determined by Institutional Research Department and divided equally between those departments involved. This is also done within colleges, for example business has graduate students in four programs, which are divided equally.

Faculty grants are not factored into this formula as there is no reliable source of data and would be very difficult to work with if it was available. Leonard commented that citation studies have been helping, and are often being updated.

There are departments that are more dependent on books, others that are more dependent on journals. However, the same information was applied to journal allocations for departments, which was then reviewed.

At this time, 4:55, Education Technology Services staff needed to close the room, so the meeting moved to Library 266, for the journal allocation discussion.

The meeting adjourned at 5:10pm.

# **Report on Development of Allocation Formula for Distribution of Library funds**

Executive Summary

Sandra Shropshire

March 15, 2010

The Library has addressed the assignment given to it by Dr. Vailas, that is, to develop a rational method for distributing Library funds among the subject areas at ISU, identifying a "core" and a "research" collection. The work has been driven by the principles below.

## Guiding Principles

### Definition of Core Undergraduate

The word, "core," is usually used to designate that which is most essential to the being or function of an entity. If one divides a university library's collection into its undergraduate and research components, then the undergraduate "core" collection may be defined to be that book and journals collection that is minimally adequate to support the undergraduate curriculum at an average mid-sized university, with sufficient breadth to provide some undergraduate-level materials in all standard academic subject areas, and sufficient depth to support substantial, thought not exhaustive, undergraduate research.

### Definition of Core Faculty/Graduate

The "core" research collection may be defined as those books and journals that are needed to meet the basic informational needs of graduate students and faculty, i.e., those who are engaged in substantive research endeavors, at a given institution, and thus, varies with faculty and graduate populations, among other things. It would neither be possible, nor desirable to seek to acquire a core research collection that answered the needs of all mid-sized universities, as was the case for the undergraduate core. Research activities, unlike undergraduate studies, vary widely from institution to institution. And at an institution such as ISU, with limited funds, the "core" research collection is likely to be the entire research collection, which is to say that materials will have been acquired in response to the declared research requirements of existing faculty and graduate students, and understood to be essential to those needs. It is worth noting that the non-core research needs by ISU's researchers are currently being met by the Library's interlibrary loan service.

### Division Between Books and Journals

It is advisable to create allocation formulae separately for books and for journals. These two modes of scholarly communication are very different from the perspective of collection development. Books are relatively expensive on an item-by-item basis. Their cost does vary, but over a fairly restricted range. Scholarly journals, on the other hand, are acquired on a yearly subscription basis, and their costs vary tremendously, with high-priced scientific journals costing up to 100 times more than those in the humanities. Moreover, the degree of dependence on these two modes of information delivery differs greatly from one discipline to another. Doing justice to the disparate functions of these two formats in a single formula seemed impossible.

### Shared Collection Development

The development of a formula is intended to support the current policy of shared materials selection among faculty. Current Library materials allocations for books are shared between assigned individuals in the Library and in each academic department. Current journals subscription decisions are determined entirely by departmental faculty within the constraints of

their existing journals allocations. In addition, the Library allocates separate funds for general undergraduate, multidisciplinary and reference material support.

#### Subject-Based Allocations

The practice of establishing subject-based allocations for books and journals that correspond with ISU departments was instituted by the Library in the mid-1990's. This de-centralization was viewed as a way of managing the subscription-and book-level decisions faced by any academic library whose mission prescribes that the collection reflect faculty and student research and curricular needs. The proposed formula is therefore articulated in terms of the departments as they existed at the beginning of the FY 09/10 year, although it can be adapted to respond to any departmental changes resulting from reorganization or other reasons.

#### Limit to Commercial Scholarly Publications

While there is valuable research support material freely available, i.e., publications of the United States government, etc., the need in this assignment is to develop a method for allocating funds for the purchase of materials available within the commercial scholarly publishing realm.

Therefore, the term, "publishing industry," will hereafter be used specifically to refer to this subset of the publishing realm.

#### Appropriated Funds

The formula treats the allocation only of state-appropriated capital funds which are expended at the Library's discretion. The Library also receives 2% of the university's grant overhead funds. These funds are variable, and expended in consultation with the University Library Committee. Previous overhead purchases include multiple one -year subscriptions to *Web of Science* and the *Early English Book Online* collection.

The Library has arrived at one way to calculate the allocation of Library resources, but that method is not without its flaws. Given the nature and complexity of the universe of academic knowledge, some subjectivity in the development of the formula was unavoidable. To begin with, data is available from disparate sources, is characterized using non-standard descriptors, and must be somehow normalized or re-phrased into categories that reflect ISU's disciplinary offerings. Additionally, the publishing universe is vast such that it is inevitably a matter of estimation to arrive at publication figures for subject areas. Finally, trustworthy guidance on formula creation from within the profession is non-existent. There are many published formulae, all reflecting particular institutions' needs and their political circumstances and all differing in exactly what acquisitions are being addressed, and what factors are being included in the calculations. There is, in short, no generally accepted formula for library allocations. The formula that we have devised can be characterized as an original creation that is reflection of empirical data that has been sorted into categories to reflect ISU's conditions so that it can be meaningfully interpreted.

In the course of the work, we surveyed the faculty about which journals they considered to be core. This received a return rate of unusable size, which suggests, perhaps, that this is not a survey-able topic. Additionally, we met numerous times with the University Library Committee and sought the advice of Drs. Steve Adkison and Barbara Adamcik. We have met numerous times with the University Statistician, Teri Peterson, whose advice has been invaluable and is reflected in our work.

#### Proposed Formula

Allocations have been calculated according to format and intended use. Format differentiation is between books and journals, and allocations for each have been calculated somewhat differently, due to the extreme price variations among journals and the substantial number academic journals that are published. To address the size and cost variations within the Faculty/Graduate journals, we have the total number of journals per discipline is multiplied by the average cost of journals per discipline to

arrive at a total cost figure—the “publishing universe”—which is then brought to bear against the other factors of researcher population and journal dependency.

The total number of academic books that are published is also of a size that puts them out of reach of ISU Library’s budget, but the price variations therein are nowhere near as vast as those in journals. To address this, we have set the undergraduate target at 8% of the total publishing output because to purchase this amount would require approximately one-half of the book budget at ISU. For the faculty/graduate allocation, we have considered the other one-half of the book budget as a target and, and have factored this against the relevant factors of researcher population and book dependency.

Intended use distinguishes between undergraduate users, for whom materials serve primarily an instructional purpose, and graduate and faculty users, for whom materials primarily support research. The result is that there are two categories of book allocation: the undergraduate core collection and the graduate/faculty core collection. For journals, there are also two allocations: one for undergraduate core and one for the graduate/faculty core research collection. To the graduate/faculty core research collection will be added any specific subject-related packages purchased at the request of the department. These subject packages will hereafter be allocated to the departments. Details of the calculations to determine these elements are as follows:

- **Books—Core Undergraduate**
  - Assumes that the composition of the undergraduate collection at a mid-sized academic library such as ISU should represent a full spectrum of subject areas, i.e., what one might expect to find at any mid-sized academic library, and should not be driven by local factors such as student or faculty headcounts, degrees offered, etc.
  - Scope of the scholarly publishing industry suggests that only a fraction of the total output can be considered in allocating the Library’s budget. The present size of the total subject book budget at ISU suggests that eight percent of the academic publication output would be a reasonable goal for ISU to set. Therefore, the formula asserts that the cost of providing 8% of the total published output should be allocated to support each academic discipline at ISU
- **Books—Faculty/Graduate Core**
  - FG—Faculty/Graduate: FTE of all faculty with a research mandate. No clinical faculty included. Doctoral students=.5 FTE; Masters students=.25 FTE. Department assignments for students working on graduate degrees not specifically attached to a single department have been made in consultation with the relevant college/department. (Example, M.B.A. and Ed.D. students)
  - BD—Book Dependency. Degree of dependence on monographic literature within a given discipline. Based on published citation studies. Expressed as relative to journal dependency. Citation studies provide the basis of these figures. The publication of studies in the disciplines represented by each of ISU’s academic departments is not comprehensive; therefore, some discretionary assignments have been made. Example, the figures derived from the citation studies for English have been applied to English, of course, and also to Communication and Rhetorical Studies.
  - BD%—Book Dependency as percentage of all book dependencies.
  - MFG—Modified Faculty/Graduate.  $FG * BD\%$ . This provides a measure of book dependency as related to the faculty graduate population.

- MFG%. Individual MFG/total of all MFG. A measure of the faculty graduate book dependency as a percentage of all such dependencies at ISU
  - # of Books if 2,000. After allowing for the costs needed to support the Undergraduate Core Books, and, considering the current size of the book budget at ISU, the total number of books that can be purchased to support all Faculty/Graduate Core books is 2,000. Multiplying MFG% by 2,000 provides the number of books that can be purchased by department.
  - FG Allocation. The number of books that can be purchased per department is multiplied by the average book costs per discipline to arrive at the FG Allocation. This figure is added to the UG Allocation to arrive at the total book allocation.
- **Journals—Core Undergraduate**
    - Premier undergraduate full text database, *Academic Search Complete*, is currently paid from non-subject Library funds. Proposal is to continue this, and to consider this the university support of undergraduate journal need. Cost of *Academic Search Complete*: \$ 49,874.00.
- **Journals—Faculty/Graduate Core**
    - FG--Faculty/Graduate: FTE of all faculty with a research mandate. No clinical faculty included. Doctoral students=.5 FTE; Masters students=.25 FTE. Department assignments for students working on graduate degrees not specifically attached to a single department have been made in consultation with the relevant college/department. (Example, M.B.A. and Ed.D. students)
    - JD--Journal Dependency. Degree of dependence on journal literature within a given discipline. Based on published citation studies. Expressed as relative to book dependency. Citation studies provide the basis of these figures; the publication of studies in the disciplines represented by each of ISU's academic departments is not comprehensive. Therefore some discretionary assignments have been made. Example, the figures derived from the citation studies for English have been applied to English, of course, and also to Communication and Rhetorical Studies.
    - PU--Publishing Universe. Total cost of all scholarly peer-reviewed journals in a given discipline. Average cost multiplied by total number of journals. Cost and publication figures for journals have been obtained from published industry reports and from an online catalog of journals.
    - PU%--departmental PU/sum of all departmental PU's. A measure of the cost for the department as a percentage of total.
    - Once the results have been predicted, the Library will assign the cost of any subject-based subscription packages currently allocated to non-subject Library funds to the relevant department to determine its total journals allocation.

○ So that

- FG\*PD—measure of the size and need of a given department
- PU—measure of the supply
- Sample effects of the FGPD factor and the PU factor on journal allocation using different weights:

Department	Emphasis on PU. W=.05. (FGPD=.05, PU=.95)	FGPD and PU are equal. W=.5 (FGPD=.5, PU=.5)	Emphasis on FGPD. W=.95 (FGPD=.95, PU=.05)	FY08/09 journals allocation with packages included
Biology	237,244.00	176,717.00	116,191.00	383,488.00
Educational Leadership	2,030.00	15,559.00	29,087.00	9,846.76
Engineering	80,544.00	79,919.00	79,293.00	64,824.00 (42,374.00 +22,450.00 IEEE package)
English	9,256.00	13,938.00	18,620.00	16,576.00 (16,226.00+350.00 .25 EEBO maint. Fee)

Treatment of Results

- Formula is intended to predict beginning allocations by format and level for departments as they existed at the beginning of FY09/10. Departments would retain the option of transferring funds among their allocated formats.
- Effects of formula vary considerably among departments.
- We tried Factor analysis, Logarithmic analysis. Fundamental results the same.
- Advisable to implement the formula over time, or as new funds occur.
- Could add additional factors. One suggestion, faculty productivity, didn't work: grants not recorded consistently on campus, publication activity not centrally recorded.
- Could invoke ceiling and floors, in order to mitigate the extreme decreases and increases in allocations
- For books, the undergraduate percentage applied could be modified
- If adopted, formula would require annual review and data collection.

<b>Core Teaching Books</b>					
12/09					
<b>TABLE A: CALCULATION OF CORE TEACHING BOOKS ALLOCATIONS</b>					
<b>Subject/Dept.</b>	<b>BPU</b>	<b>ABC</b>	<b># Bks Y=8%</b>	<b>BA:UC</b>	<b>Total Bk.</b>
					<b>Expend 09</b>
Anthropology	682	\$89	55	\$4,856	\$5,011
Art	888	\$56	71	\$3,978	\$10,723
Biology	759	\$122	61	\$7,408	\$23,985
Chem.	110	\$199	9	\$1,743	\$2,990
Com/Rhet.	144	\$71	11	\$815	\$1,757
Economics**	1420	\$98	114	\$11,133	\$6,394
English	3869	\$46	310	\$14,238	\$27,296
For. Lang.	257	\$94	21	\$1,929	\$7,795
Geosci.	174	\$134	14	\$1,865	\$8,156
History	1682	\$68	135	\$9,150	\$25,224
Mass Comm.	517	\$63	41	\$2,603	\$3,978
Math	286	\$106	23	\$2,421	\$22,578
Music*	980	\$50	78	\$3,920	\$10,234
Philosophy	1416	\$84	113	\$9,512	\$9,789
Physics	290	\$132	23	\$3,062	\$8,379
Political Science	2638	\$76	211	\$16,036	\$12,643
Psychology	554	\$73	44	\$3,232	\$5,874
Sociology	2323	\$70	186	\$13,006	\$12,235
Theatre / Dance	455	\$53	36	\$1,927	\$4,297
Acct., Market., etc.	1162	\$76	93	\$7,062	\$25,105
CIS	1119	\$86	90	\$7,699	\$4,201
Education-except SS	1232	\$82	99	\$8,082	\$9,550
Sports Science	247	\$49	20	\$966	\$2,876
Engineering	1232	\$121	99	\$11,926	\$16,804
Counseling	73	\$79	6	\$461	\$2,254
CS&ED, etc.	144	\$109	12	\$1,256	\$3,279
Dental Hygiene	10	\$140	1	\$106	\$1,556
Family Medicine	37	\$73	3	\$213	\$1,380
Health Care Admin.	96	\$77	8	\$588	\$5,972
Health Nutrition	238	\$125	19	\$2,380	\$1,607
Nursing	38	\$57	3	\$171	\$544
Physical Therapy	46	\$157	4	\$576	\$2,772
Occupational Therapy	9	\$64	1	\$46	\$6,359
Public Health	114	\$86	9	\$781	\$1,079
Radiog. Sci.	68	\$171	5	\$923	\$2,234
Pharmacy	284	\$146	23	\$3,317	\$20,020



Technology					\$11,454
Total					
Note: Technology academic programs are A.S. Registered Nursing, B.A.S., B.A.T., B.S. Health Science, Emergency Management, Fire Services Administration, Geomatics Technology, Human Resource Training and Development, Paramedic Science, Respiratory Therapy. "adult education"					

Core Research Journals							weight of FG		Total Periodicals Exp. 09	Subject Specific Content Packages. Previously not allocated to department.	Packages cost added to department allocation	Total allocation. Periodical Allocation plus packages cost 08/09
	JD %	FG	FG*JD	WFGP	JPU	JPUP	(WFGP x .5) +(JPUP x .5)	JA:RC				
Anthropology	50	11.19	560	0.97798	\$258,520	1.24620284	1.112092137	16750.5653	9,327.00			9,327.00
Art	22	9.5	209	0.36532	\$56,619	0.27506143	0.320192128	4822.80107	1,847.00	2,725.00 Art Full Text	2,725.00	4,572.00
Biol./Clin.Lab.Sci.	88	57.47	5057	8.84004	\$4,036,300	19.6087967	14.22441994	214251.2	383,488.00	2,000.00 (JSTOR Botany/Ecology) + 9,816.42 (Blackwell) + 6,234.00 (Springer)	18,050.42	401,538.42
Chem.	91	13.88	1263	2.20781	\$2,104,470	10.2237505	6.215779462	93623.3758	156,665.00	3,267.00 ACS Journals	3,267.00	159,932.00
Com/Rhet.	49	7.87	386	0.67406	\$19,200	0.09327575	0.383670027	5778.91852	4,695.00			4,695.00
Economics	50.2	5	251	0.43874	\$92,400	0.44888953	0.443813255	6684.80845	14,053.00			14,053.00
English	27.5	47.07	1294	2.2626	\$144,534	0.70216233	1.482380198	22327.9218	16,228.00	350.00 (.25 EEBO maint.) + 879.00 (.33 Duke) + 8,280.00 (.5 Muse)	9,509.00	25,735.00
For. Lang.	35	5	175	0.30589	\$90,168	0.43804622	0.371969271	5602.67927	4,661.00			4,661.00
Geosci.	83	19.15	1589	2.77829	\$748,332	3.63548052	3.206884666	48302.7703	52,535.00	8,258.00 (Geoscienceworld)	8,258.00	60,793.00
History	21	11.18	235	0.41039	\$220,388	1.07066954	0.740527338	11153.9783	17,279.00	1,374.00 (Oral History online)+ 520.00 (Sanborn Maps) + 350.00 (.25 EEBO maint.) + 879.00 (.33 Duke) + 8,280.00 (.5 Muse)	11,403.00	28,682.00
Mass Comm.	49	7	343	0.59965	\$63,500	0.3084901	0.45401952	6838.53735	3,291.00			3,291.00

JD9: FG FG*P WFGP JPUL JPUP (WFSRXS) + (LPPX.S) JA.RC 2009-2010 Subject Spec. Context Pkg Xg Context to Dept Total Allocation												
Math	51	25.19	1285	2.24558	\$1,130,211	5.4906914	3.868136555	58262.6851	54,062.00	192.00 (.33 Computing Reviews)	192.00	54,254.00
Music	26	8.4	218	0.38175	\$33,488	0.16268845	0.272221029	4100.25031	4,331.00	995.00 (Classical Music Library)	995.00	5,326.00
Philosophy	15	5	75	0.1311	\$251,704	1.22280617	0.67695144	10196.3847	8,167.00			8,167.00
Physics	89	34.76	3094	5.40755	\$2,129,344	10.3445912	7.876069051	118631.006	76,869.00			76,869.00
Political Science	32	29.5	944	1.65007	\$315,403	1.53226304	1.591166794	23966.4884	19,787.00	879.00 (.33 Duke)	879.00	20,666.00
Psychology	74	31	2294	4.00981	\$458,068	2.22534556	3.117578417	46957.6208	69,087.00	5,692.00 (.5 Psycarticles)	5,692.50	74,779.50
Sociology	33	13.25	437	0.76429	\$392,620	1.90739186	1.335842828	20120.7452	20,643.00			20,643.00
Theatre / Dance	20	7.13	143	0.24926	\$20,250	0.09837676	0.173817651	2618.07797	3,032.00			3,032.00
CIS (7)	70	13.1	917	1.60288	\$636,870	3.09398566	2.3484307	35372.5564	10,798.38	192.00 (.33 Computing Reviews)	192.00	10,990.38
Accounting(6)	51	12.1	617	1.07866	\$636,870	3.09398566	2.086324684	31424.6605	6,578.87	7,010.00 (Acctg. Res. Mgr.)+3,233.00 (BNA Tax MGT.)+3,399.00 (CCH Tax)+16,889.87 (Compustat)+10,903.00 (CRSP)+17,349.00 (S&P NetAdvantage) +		
Finance(5)	51	11.1	586	0.98952	\$636,870	3.09398566	2.041751803	30753.2944	8,570.11	9,579.00 (BSC)	68,362.87	74,941.74
Management(10.5)	51	16.6	847	1.47982	\$636,870	3.09398566	2.286902645	34445.8079	27,862.27			27,862.27
Marketing(4)	51	10.1	515	0.90037	\$636,870	3.09398566	1.997178923	30081.9283	4,463.24			4,463.24
Acct.+Fin.+Man.+ Mktg. Total		49.9						126705.691	47,474.49			115,837.36
Ed. Foundations(12.96)	52	37.17	1933	3.37829	\$220,180	1.06965906	2.223975638	33497.9881	7,831.96	0.00		7,831.96



Ed. Leadership&Instru ctional Design(11.1)	52	34.03	1770	3.09334	\$8,720	0.04236273	1.587851577	23615.3097	9,846.76			9,846.76
School Psychology Literac y & Special Ed.(9)	52	33.36	1735	3.03199	\$26,705	0.12973588	1.580861518	23811.2682	6,058.86			6,058.86
		104.5										
Sports Science&Physical Ed.	52	23.25	1209	2.11328	\$86,655	0.42097968	1.267129297	19085.7676	8,501.62			8,501.62
Engineering(CS, Civ./Env.,Elec.,M ech.,Nuc.)	70	55.25	3868	6.76022	\$1,333,705	6.479288	6.619754095	99708.1263	42,374.38	22,450.00 (IEEE package) + 192.00 (.33 Computing Reviews)	22,642.00	65,016.38
Counseling	80	36.98	2958	5.17115	\$90,440	0.43836763	2.805260469	42253.4223	12,810.66	5,692.00 (.5 Psycarticles)	5,692.50	18,503.16
CS/Ed.of Deaf(0/1)	80	46.4	3712	6.48841	\$45,220	0.21968382	3.354048417	50519.3816	14,140.03			14,140.03
Dental Hygiene	80	20.68	1654	2.89182	\$204,820	0.99503846	1.94342851	29272.3283	6,361.84			6,361.84
Family Medicine		0	0	0	\$1,332,660	6.47421127	3.237105636	48757.9649	708.95	7,531.38 (StatRef)	7,531.38	8,240.33
Health Care Admin.	80	2.72	218	0.38036	\$94,430	0.4587515	0.419553372	6319.40099	9,680.00			9,680.00
Health Nutrition Sciences/Dietetics (2.4/2)	80	21.4	1712	2.9925	\$138,320	0.67197402	1.832237428	27597.5449	4,399.91	1,357.83 (StatRef)	1,357.83	5,757.74
Nursing	74	40	2960	5.17395	\$243,390	1.18241583	3.178162933	47870.4588	23,394.99	3,579.15 (StatRef)	3,579.15	26,974.14
Physical Therapy	80	41.75	3340	5.83817	\$71,820	0.34890959	3.09354147	46595.5713	6,592.76			
Occupational Therapy	80	5.25	420	0.73414	\$71,820	0.34890959	0.541525574	8166.57192	12,071.75			12,071.75
Public Health	80	3	240	0.41951	\$168,910	0.82058366	0.620046563	9339.27155	6,360.26			6,360.26
Radiographic Science	80	3	240	0.41951	\$142,310	0.69135789	0.555433676	8366.05867	2,985.67			2,985.67

										27,500.00 (ADIS)+ 2,975.00 (Books @ Ovid)+1,280.00 (.5 Cochrane Library)+1,575.00 (Stahls Ess. Psychoph.)+ 15,249.64 (StatRef)		
Pharmacy	85	60.26	5122	8.95321	\$535,990	2.60369934	5.778552624	87037.7731	84,983.21		48,579.64	133,562.85
Technology												
Academic	42	19.19	806	1.40882	\$20,165	0.09796382	0.753390738	11347.7295	2,418.00			2,418.00
			57210	100	20584129	100	100	1506221	1,287,313.97		218,908.29	