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THE COMPUTER AS A MANAGEMENT TOOL--PHYSICAL FACILITIES INVENTORIES, UTILIZATION, AND PROJECTIONS. 11TH ANNUAL MACHINE RECORDS CONFERENCE PROCEEDINGS (UNIVERSITY OF TENNESSEE, KNOXVILLE, APRIL 25-27, 1966).

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PUB DATE APR 66

EDRS PRICE MF-$0.25 HC-$1.24 29P.

DESCRIPTORS- *COLLEGE PLANNING, *COMPUTERS, *ENROLLMENT PROJECTIONS, *FACILITY INVENTORY, *SPACE UTILIZATION, CLASSROOMS, DECISION MAKING, GROWTH PATTERNS, MANAGEMENT, PHYSICAL FACILITIES, RESOURCE ALLOCATIONS,

WISCONSIN STATE UNIVERSITIES HAVE BEEN USING THE COMPUTER AS A MANAGEMENT TOOL TO STUDY PHYSICAL FACILITIES INVENTORIES, SPACE UTILIZATION, AND ENROLLMENT AND PLANT PROJECTIONS. EXAMPLES ARE SHOWN GRAPHICALLY AND DESCRIBED FOR DIFFERENT TYPES OF ANALYSIS, SHOWING THE CARD FORMAT, CODING SYSTEMS, AND PRINTOUT. EQUATIONS ARE PROVIDED FOR DETERMINING STANDARD AND POTENTIAL UTILIZATION, AND CLASS ENROLLMENT PROJECTIONS. IMPLICATIONS ARE NOTED FOR THE USE OF COMPUTERS IN THE PLANNING PROCESS AND FOR THE TECHNIQUES BEING USED. ADDITIONAL PROBLEMS DISCUSSED INCLUDE COMPUTER APPLICATIONS IN SPACE CONVERSION, LABORATORY AND LIBRARY PLANNING, OFFICE SPACE, AND DEPARTMENTAL ORGANIZATION. (MM)

THE COMPUTER AS A MANAGEMENT TOOL - PHYSICAL FACILITIES INVENTORIES, UTILIZAION, AND PROJECTIONS

David R. Witmer

April 25-27, 1966
11th annual
MACHINE
RECORDS
CONFERENCE
PROCEEDINGS

THE UNIVERSITY OF TENNESSEE

KNOXVILLE, TENNESSEE

Contents

FOREWORD

The papers to be presented at the Eleventh Machine Records Conference have been collected into this volume. The purpose of this volume of Proceedings is to place into the hands of those attending the Conference the presentations of the speakers in order that exhibits and hand outs may be readily available. In addition, a secondary purpose has been to make all the papers available to institutions which did not have sufficient representatives present to attend every session.

In order to place this document in your hands at the time of registration, no attempt has been made to edit the papers. This has reduced the chance of misinterpretation on our part. The papers, as submitted by their authors, have been photographed and multilithed.

This volume contains all papers on hand one month prior to the Conference. If additional papers become available, we hope to collect and to send them on to you as a supplement to this volume.

The Conference gratefully acknowledges and thanks the International Business Machines Corporation for underwriting the cost of this publication.

Chairmen
11th Machine Records Conference

THE COMPUTER AS A MANAGEMENT TOOL - PHYSICAL FACILITIES INVENTORIES, UTILIZATION, AND PROJECTIONS

David R. Witmer

Board of Regents
Wisconsin State Colleges

WISCONSIN STATE UNIVERSITIES CAN, AND DO! George Bernard Shaw's dictum, "those who can, do, those who can't teach," was given the lie last Wednesday afternoon as a "1410" in the state computer center ingested a diet of data describing the program and physical facilities at Wisconsin State University-Oshkosh. Three hours later it spued forth the results of the most complex series of computations ever run in the center. Comparable data for Stout State University and the Wisconsin State Universities at Eau Claire, La Crosse, Platteville, River Falls, Stevens Point, Superior, and Whitewater will be processed later this month. Colleges and universities have been teaching others how to solve management problems on computers for some time. With a few notable exceptions, however, they have made little use of computers in solving administrative problems of their own. "We may be the one additional exception that proves the rule," said Eugene R. McPhee, director of Wisconsin State Universities, "but we feel we have turned a significant corner in the administration of higher education."

The original goal of this project was to program the computer to do what was formerly done by hand. However, as work progressed, refinements and sophisticated projections were incorporated until the project grew far beyond what anyone would try to do without the computer's help.

This project takes the mystery and politics out of the projection of space requirements. By using factors acceptable to the State Building Commission, the Board of Regents, and others, and by drawing utilization data directly from the class master schedule cards actually used at the Wisconsin State Universities, the computer turns out reports and projections that form the basis of decisions which shape the future of the college campuses of the state.

> Human effort is not obsoleted by this program. But it is concentrated on making judgments, the direct consequences of which can be foretold. "We now have a better understanding of what needs to be done and what effects our decisions will have," reported McPhee.
>
> Among other things, the computer projects the growth of individual disciplines and departments, then computes space needs based on those projections and the recorded experience in each discipline, to date. Under special circumstances, the computer reveals the consequences of "adjustments" in space factors caused by lags in the building program.
>
> "Because we're an educational institution," McPhee concluded, "we'd be happy to share our experiences with others." Wisconsin State Universities can, do, and teach!

This statement reflects some of the excitement attending our use of the computer in support of our physical facilities program. But it overstates the case. The shift from political "horse trading," "back scratching," and "log rolling" to computer-assisted decision-making does not take place overnight. The basic formulas have been hammered out over a long period of time through the inter-action of the Universities, the Board of Regents, the State Building Commission, and others. Actually, we aren't doing anything with the computer that we couldn't do before with a number two pencil, a big pile of paper, and a lot of time. Fred E. Schwehr, our physical facilities specialist, who was instrumental in building the system of formulas which the computer applies, has a wife who has first hand understanding of a current social problem: She's technologically unemployed! The basement of her house now holds a workshop, family room, etc. . . . the calculator and mountains of data-loaded paper have moved on to a new world.

We have a special problem in resource allocation: "How can limited funds for physical facilities best be allocated and used to meet the program requirements of the nine universities in the system?" In answering this question we, of course, go considerably beyond dividing the pie on the mere basis of "head count," and we stop considerably short of dictating pedagogical philosophy, methods, and techniques.

One further word before we look at the computerized project: This physical facilities allocation system was rationally conceived, organized, and operated before we happened on the scene. Although this is what every systems analyst insists on, experience seldom provides such a happy point of commencement. The big question: "How much does each university, with its schools and departments, need?" has been broken into smaller ones: "What facilities does each program require?" "How much will these specific facilities probably cost?" "Where are the need greatest?" and so forth.

The key to resolving questions like these seems to lie in the process of abstracting them from current, individual interests. Instead of asking "How much money is needed to build a new technology building for Stout?" ask "What facilities does an industrial technology program require? What kinds of laboratories? How many students should each kind of tech lab support? What equipment? How many stations should each kind of lab have? How many square feet will this require?" Only after educators, administrators,

and legislators agree on answers to these small, abstract, and theoretical questions should institutional names, places, and dates be mentioned. After all, it's pretty difficult for a university president to insist on twenty square feet per student station for a forty station general classroom at his institution after agreeing that fourteen is adequate for others.

The people connected with this project are widely known as "dream smashers," and perhaps rightly so! We insist on facts and figures where other men see visions. Consider the typical middle-aged educator with his dreams of an academic edifice. Not only does he see ivy-covered brick among the elms, but he sees entrys, corridors, rooms, ... individual stations in the science labs, students peering through microscopes, light green walls, fixtures and appointments like those at Stevens . . . . When we break in on this dream world with all of our measurements and other matters-of-fact, the results are often disillusioning and sometimes traumatic. It's necessary for hard headed people to realize what effects they have; and equally important to recognize that computers, and the "nay-sayers" who run them, seldom build anything. Colleges are founded, and buildings are built, because of the pressures generated by pride, dreams, visions, and the leaders who have them! We dare not forget that.

But you didn't come here to listen to me wax philosophical . . . . Let's quickly run through this forest of computer, and computer-related, operations to salvage what we can of the hour, and to stimulate some thoughtful questions, if that be possible.

In the first phase of this project we collect, record, analyze, manipulate, and print out data concerning the physical facilities we already have. Buildings are numbered, as are rooms and other areas. Each room is measured and classified as to function. See Exhibit 1. Note that room data is punched into 402 and 403 cards. Area is recorded in field 30-34 and in one or more (in the case of proration due to multiple use), of the fields indicating

function: classroom, office, physical plant, etc. When field size is inadequate, 9's are punched on one card and the balance punched on a second card of the same type. The number of student stations is punched in field 35-38. Teaching lab and other instructional space is described in field 8-21, in accordance with the codes at the bottom of Exhibit 1. Department numbers are punched for office, lab, and other instructional space; other areas are not assigned to specific disciplines or activities. Year, field 26-27, is the year in which the card is prepared. Type change, field 28-29, is 1 for Remodeling, 2 for Razed or Sold, 3 for Built or Bought.

These cards, 400, 401, 402, and 403 are sorted and fed into the computer which prints out the Physical Facilities Inventory. See Exhibit 2. Note that this is the first page of inventory for the Wisconsin State University at Eau Claire. This inventory was run in January, 1966. Building Number 1 is Schofield Hall. Room 1 is the Registrar's office. Room 2 is a women's rest room with some custodial space in it. Room 4 is devoted to research and 9 to physical plant. Room 16 is a business lab of 966 square feet with 30 student stations, which the computer tells us allows 32 square feet per station. Room 19 is a general classroom, 34 is other instructional space which supports the audio-visual lab, and 37 is used by an auxiliary enterprize: the textbook library. Room 72 is a stairwell and so is 77, but 77 is being remodeled at this time. If there had been keypunching errors so that the square feet of floor space had not equaled that reported on the right side of the page, an asterisk would have been printed in that line between the position for department number and square feet of floor space.

Now look at Exhibit 3. Note that there is a summary at the bottom of this page that tells us that Building 9, Science Hall, at WSU-La Crosse, has 218 rooms, including 14 classrooms, 25 labs, 2 phy. ed. areas, 3 rooms devoted to research, and 18 restrooms. The classrooms contain 977 stations with an average of 12 square feet per station. The labs total 486 stations

at an average of 42 square feet per station. Classroom, lab, office, library, auditoria, and other instructional areas were added to total 45,167 square feet of active instructional space. Active non-instructional space totaled 16,230; inactive 18,327; and non-assignable 24,748. The total (net) square feet of floor space is 104,472. A similar summary is produced for every other building and for each university campus as a whole.

The second phase of this project analyzes the utilization of classrooms, labs, and physical education areas. The input is based on class master cards used in registrars' scheduling operations. See form 405, Exhibit 4. As you might guess, the registrars' systems were neither identical nor compatable and it was necessary, therefore, to write conversion programs to get the 405 cards. We even designed a (1230) scanner form which we used to originate this file of data in one case. The basic period here is one week. Days of the week on which the class meets are punched 1 (field 63-68). Length of period is reported in hours (column 69) and tenths of hours (column 70). Hours of the day (field 71-72) are those based on the 24 hour clock, i.e., 1 P.M. = 13.

An example of a Utilization Report is included as Exhibit 5. This report tells us that Room 108 in Barstow Hall (Building 2), at WSU-Superior, is a classroom with 1204 square feet and 77 student stations at 16 square feet each. Fifty-two students enrolled in Biology course number 6 meet in this room at 9:00 every Monday, Wednesday, and Friday for 1 hour. Twenty-four hundred and thirty-six student contact hours are generated in this room each week during a total of 39 periods through the normal day. If all seats had been filled during each period in which classes were held, 3003 contact hours would have been generated. Find 3003 on the right side of the page, labeled "Potential Station Occupancy." Use of this room at the level of agreed upon standards (30 hours per week X .67 X 77 stations) would have generated 1540 student contact hours. The actual utilization (2436) equaled 158% of standard utilization and 81% of the potential station occupancy.

A report of this type is printed for each classroom, lab, and physical education area. Poor scheduling and inadequate use jumps right off the page for those who have learned to understand and use these statistics. Not all classrooms at Superior are this well utilized, but some are used at even higher levels. The standards for phy. ed. areas and laboratories are not the same as those for general classrooms. And lest anyone not conversent with the relationships between quality, scheduling, and space wonder why the standard is not 44 hours a week at 100% of station use, let me say that these standards have been worked out through great effort over the years and will not be lightly laid aside. Check the standards at your institution before you throw stones.

For each building and for each campus the computer produces a summary report of utilization, part of which is shown in Exhibit 6. We see here that, among other things, Building No. 5, Harrington Hall at WSU-Oshkosh, has 186 student stations, in 7 laboratories, 84% of which are occupied, on the average, whenever the labs are used. Labs are used an average of 32.9 hours per week and generate 5633 student contact hours which happens to be 158% of standard utilization. Similar reports are printed for classrooms, phy. ed. areas, and all class areas combined.

In the third phase of this project the computer reads the current inventories, utilization data, utilization data from previous years, personnel data, data on planned building and remodeling, enrollment reports, etc.; projects future needs; measures those needs against facilities available or to be available, and predicts shortages and surpluses. For additional input, see Exhibit 4. Card 408 carries data about each university department and activity from the personnel file. Cards 411 and 421 report changes in buildings due to construction, purchase, sale, and razing. Changes in individual rooms are reported on 406 cards. In field 26, classification or type, 1 means classroom, 2 means lab, and 3 means office. Cards 4101 and 102 bring in enrollment reports and projections.

For contact hour projections see Exhibit 7. This table was made during a test run and is generally illustrative of what the computer can do, even though the input was not strictly accurate. Garbage in, garbage out, as you know! In this illustration, scheduled class hours (faculty contact hours) in mathematics total 296 and generate 8365 student contact hours. One of these math classes, with 26 students, is scheduled in a lab. The average number of students per class is 28.

The woods is full of projection formulas. As any good statistician will insist, we must choose the formula which most accurately predicts. For the time being, we use $/(A-B\div C) + (A-D)/ \div 2 = E$ in which A equals the number of student contact hours in the latest year, B equals the student contact hours in the earliest year, C equals the number of years intervening, D equals the contact hours generated in the year preceding the latest, and E equals the projected annual increment of increase . . . or decline. After projecting the annual increment for math, the other disciplines, and the total for all disciplines, the computer projects the total student contact hours by relating future student contact hours to future enrollments in the same way that current contact hours are related to current enrollments. (This ratio, 1:21 in the illustration, 1:16 actually, is fairly constant.) The computer reconciles the two totals by adjusting the former to the latter and then re-projects the student contact hours for each discipline using the ratios developed previously.

Note that in this illustration, total faculty contact hours (or class hours) were projected, but not distributed among the disciplines, Most of the decisions which result in student contact hours are made by members of a relatively large population: students. Most of the decisions which result in changes in faculty contact hours (or class hours) are made very deliberately by a small group of deans, chairmen, and teaching faculty. While it is not difficult to predict what a mass of students will do, it would be presumptuous folly to even try to anticipate developments in pedagogical policy.

Although projected changes in physical facilities are reported on 406, 411, and 421 cards, many decision makers need reports of the type shown in Exhibit 8 to keep the information at their fingertips. This exhibit tells us, among other things, that 8698 square feet of space in the Halsey Science Center, formerly allocated to physical plant is going to be converted to classrooms, offices, a small research lab, and other instructional space by the year 1967. It further reveals that a fine arts building with 169,000 square feet of active instructional space should be available in the same year. The computer prints out a separate report like this for each year for which plans are firm; usually not more than three years -- the span from decision day to occupancy day.

The faculty/administration committees that write detailed program statements describing what an academic building must do and how its space must be organized, frequently disagree internally on how many and what size classrooms should be included. For their consideration, the computer projects needs based on the current classroom utilization, organization, and policy. A separate report, parts of two of which are shown in Exhibit 9, is printed for general classrooms and for each of twenty-three kinds of teaching laboratories. Exhibit 9 tells us that classes with more than ten students, but less than 16, which could have fit into general classrooms with 15 stations, met for 108 hours per week in the fall of 1965, and that, if the same proportion of all classes is that size in 1970, 2478 square feet and 8 classrooms will be required. Further it says, based on current plans, that only one classroom with 15 stations (and 271 square feet) will be available in 1970 and that this will be 2207 square feet or 7 classrooms short of what contemporary standards indicate as desirable. Note that the number of classrooms short or over is determined by dividing the number of square feet short or over by the standard (300 = 15 student stations X 20 square feet per station, in this case), rather than by merely subtracting rooms available from rooms requested. I might also

reveal, at the risk of providing more detail than you're willing to absorb at this time, that the square footage not provided for in building whole rooms rather than fractions of a room, (107 in this case), is carried up as required square footage to the next size classroom. This latter is in recognition of the fact that it is impossible to have a classroom, with 15 student stations, that will be in existance one-third (107/300) of the time, but it is possible to occasionally schedule a class of 15 in a room with 20 student stations. Those of you who are interested in the formulas that apply can stop by at the end of the hour.

Turning to the second line from the bottom of Exhibit 9, note that the totals include quantities not shown on this page. Physical education space requirements are calculated by multiplying the projected enrollment by 9.5 square feet.

Laboratories must have support space for storage of supplies, preparation of demonstrations, showing of exhibits, and so forth. We call this "other instructional space," and provide it at the rate of 40% of laboratory space. The computer prints out a summary which indicates surpluses and shortages of such support space by discipline. See Exhibit 10.

Formulas for planning libraries are in a state of flux. At this time the computer applies the following: (See Exhibit 11) Space for reading rooms equals enrollment X 20% X 25 square feet. Stack space equals enrollment X 3 square feet. Office and auxiliary space equals 25% of reading room space. Carrels equal 12½% of graduate enrollment X 20 square feet. The total required is the sum of the preceding. Projections of available space are based on current inventory plus or minus planned changes.

We turn now to the very important matter of providing office space. The market for college faculty is a sellers market today, and will remain so for the foreseeable future. The availability of good offices sometimes marks the difference between success and failure in hiring faculty. See Exhibit 12.

By adding one teaching faculty member for every 18.2 students and by assigning these new faculty in accordance with the projected distribution of student contact hours among the various disciplines, the computer predicts that there will be 44 faculty members in art by 1970 and that they will be supported by four full time staff assistants. This will require 6480 square feet of office space; 135 each. Unless more space is acquired, only 1092 square feet will be available, which is 5388 short of requirements. The 135 provides individual offices of 105-115 square feet each with the excess available for reception areas, conference rooms, etc. Other formulas are used in predicting the growth and needs of the library and the administration.

To assist management in making decisions about how to group departments, and how large to make buildings devoted to particular groups, the computer summarizes space needs by discipline. See Exhibit 13. Note that this time in the case of physics, general classroom and other instructional space is adequate, but lab and office space is so short of needs that a net requirement of 2497 square feet will exist in 1970, 3300 in 1971, 4249 in 1972, etc.

Finally, all space requirements are rolled into a grand summary according to function. Exhibit 14 illustrates this summary for one university in 1967 and 1968. Functions and formulas not previously discussed include that for auditoria: Enrollment X 133 X 17, and that for research labs: /(TF X 3) + 15 $(RF + \frac{G}{2})$/ 40 -- TF = Teaching Faculty, RF = Research Faculty, and G = Graduate students. Functions for which no projections have been programmed include extension, public service, laboratory schools, physical plant operations, circulatory, rest rooms, and custodial service.

We are using the computer as a management tool - not to make original decisions, but to assist human decision makers. It does so primarily by applying and projecting effects of policy previously determined. The computer's printed reports make up only part of what is considered in planning for physical plant.

Decisions concerning new programs; class sizes and characteristics; economical units for design, bidding, and building; and the organization of disciplines are all beyond the purview of the computer as we use it, though we believe this will not always be true.

These are great and golden days for higher education and they happen to coincide with the development of the computer as a management tool. We're using this tool to study physical facilities, costs of instruction, cleaning and housekeeping operations, faculty time utilization, and other matters of interest and concern to management. We invite you to do the same.

WISCONSIN STATE UNIVERSITIES
Form 24-65

MULTIPLE-CARD LAYOUT FORM

Board of Regents of State Colleges
Application Physical Facilities: Inventory by Schwehr - Witmer - Thoss Date July, 1965 Job No. 7600-300-01 Sheet No. 1

400 — University No. | University Name | Card Code ØØ

401 — University | Bldg. No. | (Room No.) | Building Name | Year Completed | Cube | Gross | Card Code Ø1

402 — University | Bldg. No. | Room No. | Description | Dept. No. | Year | Type Chg. | Sq. Ft. of Floor Space | No Stu. Sta./Occ. | Class-Room | Teaching Laboratory | Office | Library | Audito-rium | Other In-structional | Research | Ext. S. Pub. Service | Physical Education | Card Code Ø2

403 — University | Bldg. No. | Room No. | Description | Dept. No. | Year | Type Chg. | Sq. Ft. of Floor Space | No. Stu. Sta./Occ. | Laboratory School | Auxiliary Enterprises | Physical Plant | Other Active Instr. | Under Constr. or Remodel | Circula-tory | Rest Rooms | Custodial Service | Non-Usable | Ø3

EXHIBIT 1

AGRI - Agriculture - 60
AG S - Ag. Shops - 100
ART - Art - 60
BIOL - Biology
Botany - 40
Zoology
Etc.
BUS - Business Education
Business Administration - 30
Business Machines
Etc.
GENL - General Chemistry - 30
ORGA - Organic Chemistry - 50

INOR - Inorganic Chemistry - 70
QUAN - Quantitative Chem. - 50
DRAF - Drafting - 35
ARCH - Architechtural Draft. - 60
EDUC - Education - 40
GEOL - Geology & Geography - 30
HOME - Home Economics - 50
IN T - Industrial Techn. & Engineering Graphics, Metals, Woodworking, Electronics, Photo., Printing, Machine Shops, Etc. - 150

LANG - Language - 20
MU P - Music Practice Room --
Mu R - Music Rehearsal Rm. Band, Orch. Choir, Etc. - 20
MUSI - Music Studio --
GN P - General Physics - 35
NU P - Nuclear Physics - 45
PSYC - Psychology - 40
SPCH - Speech - 50

WISCONSIN STATE UNIVERSITY - EAU CLAIRE — PHYSICAL FACILITIES INVENTORY — JANUARY 1966 —

BUILDING NO 01 SCHOFIELD HALL

ROOM NO	DESCRIPTION DEPT/ACT/OFF	DEPT NO	SQ FT FL SP	NOSS /OCC	SQFT STA	CLASS ROOM	TCHG LAB	OFF	LIB-RARY	AUD	OTHR INST	RE-SRCH	EXT &PS	PHY ED	LAB SCH	AUX ENT	PHY PLT	OTH ER	UDCON REMOD	CIRC RST	COST NO RM SERV
	ASSIGNABLE FLOOR SPACE IN SQUARE FEET																				
								ACTIVE INSTRUCTIONAL				**ACTIVE NON-INSTRUCTIONAL**								**/INACTIVE/**	**NON-ASSIGNABLE SPACE**
1	REGISTRAR	1502	594					594													320 540
2	WOMEN		860																		
3		1350	204					204													
3A		1350	100					100													
3B		1350	60					60													
4	COMPUTER	1398	244									244									
5	CLERICAL	1302	594					594													
6	COMPUTER	1398	736					736													
6A	COMPUTER	1398	54					54													
6B	COMPUTER	1398	78					78													
7	METER RM		175																		175
8	CLERICAL POOL	1302	364					364													
8A	OFFICE		195																	195	
8B	OFFICE		207														207				
9			1070														1070				
10			1058														1058				
10A		1302	140					140													
12	ENGINEER		160														160				
12A	STORAGE		72																		72
14	WORKROOM		276														276				
15			172																	172	
16	BUS	1309	966	30	32		966														
18	BUS	1309	1012	29	35		1012														
19			858	30	29	858															
20			667	40	17	667															
22	MEN		345																		345
24	STOCK RM		276																		276
26	LANG JRNLSM	1321	874	50	17	588	286														
28	DRAFTING	1374	1365	29	47		1365														
28A		1374	120						120												
30	IN T AV LAB	1307	957	12	80		220				737										
32	IN T AV LAB	1307	242	12	20		242														
33	IN T AV LAB	1307	348	17	20		348														
34	IN T AV	1307	759								759										
36	IN T AV	1307	483						80		403										
37	TEXTBOOK		2116													2116					
38	IN T AV	1307	1472	6							1472										
69	PIPE SPACE		69																		69
70	PIPE SPACE		60																		60
71	PIPE SPACE		64																		64
72	STAIRWELL		400																400		
73	STAIRWELL		400																400		
74	STAIRWELL		322																322		
75	CORRIDOR		1891																1891		
76	FAN ROOM		812																		812
77	STAIRWELL		65																65		
78	STAIRWELL		65																65		

EXHIBIT 2

236

BUILDING NO 09 SCIENCE BUILDING / ASSIGNABLE FLOOR SPACE IN SQUARE FEET / NON-ASSIGNABLE SPACE

						ACTIVE INSTRUCTIONAL				ACTIVE NON-INSTRUCTIONAL							INACTIVE			
ROOM NO	DESCRIPTION DEPT/ACT/OFF	DEPT NO	SQ FT FL SP	NOSS /OCC	SQFT STA	CLASS ROOM	TCHG LAB	OFF	LIB-RARY	AUD	OTHR INST	RE-SRCH	EXT &PS	PHY ED	LAB SCH	AUX ENT	PHY PLT	OTH ER	UDCUN REMOD	CIRC	RST RM	CUST SERV	NON USE
422	CORRIDOR		585																	585			
423	CHEM	1310	1248	30	42		1248																
424	CHEM	1310	405	6	68		405																
425	PREP ROOM	1310	391								391												
426	BALANCE RM	1310	229								229												
427	CHEM	1310	1208	30	40		1208												1208				
428	CHEM	1310	1208	30															405				
429	INSTR LAB	1310	405	8																			
430	PREP RM	1310	391								391												
431	BALANCE ROOM	1310	229								229												
432	CHEM	1310	1228	30	41		1228																
433	STAIRWAY		650																	650			
435	CHEM	1310	1228	24															1228				
436	BALANCE RM	1310	210																210				
437	PREP ROOM	1310	348								348												
438	PREP ROOM	1310	295								295												
439	DARKROOM	1310	99								99												
440	CHEM	1310	819	12	68		819																
441	STOCKROOM		794														794						
442	PREP ROOM	1310	347								347												
443	STILLROOM		76														76						
444	CHEM	1310	1200	32															1200				
445	CORRIDOR		1882																	1882			
446	WOMEN		997																		997		
447	MEN		930																		930		
448	JANITOR CLOSET		108																			108	
449		1310	520	29	18		520																
451	STAIRWAY		279																	279			
452	GREENHOUSE	1308	840														840						
500	PENTHOUSE		2628																2628				

BUILDING NO 09 SCIENCE BUILDING YEAR COMPLETED 1965 CUBE 3449860 GROSS 126910

NO.RMS	218	STUDENT STATIONS		STUDENT STATIONS		TOT SQ FT	RESEARCH	1191	TOT SQ FT	CIRCULATORY	21586
		CLASRMS	977 AVSQFT/O	12 PHYS ED	AVSQFT/OC		EXTENSION &			REST ROOMS	2957
CLRMS	14	TG LABS	486 AVSQFT/O	42 RESRCH	AVSQFT/OC		PUBLIC SERV			CUSTODIAL	273
		AUDITOR	AVSQFT/O				PHYSICAL ED	504		NON-USABLE	
LABS	25	NO OFFS	57				LAB SCHOOL		TOT SQ FT	NON-ASSIGN-ABLE SPACE	24748
		NO OCCUPANTS /FTE/					AUX ENTERPRZ				
PHY ED	2	OFFICES ADMIN		TOT SQ FT CLASSROOMS	12031		PHYSICAL PLT	14535			
		T FAC		LABORATORIES	20224		OTHER ACTIVE		TOT SQ FT ASSIGNABLE		
AUD		R FAC		OFFICES	6900	NON-INSTRUCTIONAL				SPACE	79724
		/CS/ STAFF		LIBRARY	546	TOT SQ FT ACTIVE NON-					
RESRCH	3	TOTAL		AUDITORIA			INSTRUCTIONAL	16230	TOT SQ FT FLOOR SPACE		
				OTHER INSTR	5466					/NET/	104472
RST RM	18	SQFT/OFFICE OCC		TOT SQ FT ACTIVE INSTR	45167	TOT SQ FT INACTIVE		18327			

EXHIBIT 3

WISCONSIN STATE UNIVERSITIES
Form 24-65

MULTIPLE-CARD LAYOUT FORM

Application: Board of Regents of State Colleges — Physical Facilities: Utilization and Projections by Schwehr - Witmer - Thoss Date July, 1965 Job No. 2600-300-01 Sheet No. 2

Card 405 (card code 05)

Field	Card columns
University No.	1
Bldg. No.	2–3
Room No.	4–7
No. Stud. Enrolled	8–11
Blank Field	12–33
Dept. No.	34–37
Dept. Name	38–41
Course No.	42–45
Blank Field	46–62
DAYS: M	63
DAYS: T	64
DAYS: W	65
DAYS: T	66
DAYS: F	67
DAYS: S	68
Length of Period	69–70
Hour of Day	71–72
	73–78
05	79–80

Card 406 (card code 06)

Field	Card columns
University No.	1
Bldg. No.	2–3
Room No.	4–7
Description	8–21
Dept. No.	22–25
Class. Type	26
Yr.	27–28
+ / −	29
Change In Proj. Avail. Space	30–34
No. Stud. Stat.	35–38
Blank Field	39–76
Seq.	77–78
06	79–80

Card 408 (card code 08)

Field	Card columns
University No.	1
Blank Field	2–7
Dept. Name	8–11
Dept. No.	12–15
Admin.	16–17
T. Fac.	18–19
R. Fac.	20–21
Staff	22–23
Blank Field	24–78
08	79–80

Card 411 (card code 11)

Field	Card columns
University No.	1
Bldg. No.	2–3
Blank Field	4–7
Building Name	8–19
Year	20–21
Chg. Code	22–23
+ / −	24
Class Sq. Ft. To Be Changed	25–30
+ / −	31
Tch. Lab. Sq. Ft. To Be Changed	32–36
+ / −	37
Off	38–41
+ / −	42
Libr.	43–47
+ / −	48
Auditor.	49–54
+ / −	55
Other Instr.	56–60
+ / −	61
Research	62–66
+ / −	67
Ext. + P.S.	68–71
+ / −	72
Phys. Ed.	73–78
11	79–80

Card 421 (card code 21)

Field	Card columns
University No.	1
Bldg. No.	2–3
Blank Field	4–7
Building Name	8–19
Year	20–21
Chg. Code	22–23
+ / −	24
Lab. Sch. Sq. Ft. To Be Changed	25–29
+ / −	30
Aux. Ent.	31–35
+ / −	36
Phys. Plnt.	37–41
+ / −	42
Other Non-Instr.	43–46
+ / −	47
Const.	48–53
+ / −	54
Circ.	55–59
+ / −	60
Rest Rooms	61–65
+ / −	66
Cust.	67–71
+ / −	72
Non-Usable	73–78
21	79–80

Card 4101 (card code 01 / 10)

Field	Card columns
University No.	1
Blank Field	2–7
Latest Grad	8–11
Actual Under-G.	12–16
1st — Grd	17–20
Proj. Under-Grd.	21–25
2nd — Grd.	26–29
Proj. Under-Grd.	30–34
3rd — Grd.	35–38
Proj. Under-Grd.	39–43
4th — Grd.	44–47
Proj. Under-Grd.	48–52
5th — Grd.	53–56
Proj. Under-Grd.	57–61
6th — Grd.	62–65
Proj. Under-Grd.	66–70
Blank Field	71–76
01	77–78
10	79–80

EXHIBIT 4

WISCONSIN STATE UNIVERSITY - SUPERIOR PHYSICAL FACILITIES UTILIZATION REPORT JANUARY 1966 PAGE 7.

BUILDING NO 2 BARSTOW HALL ROOM NO 108 TYPE CLASSROOM SQFTFLSP 1204 NO STU STA 77 SQ FT/SSTA 16

DEPARTMENT, COURSE NUMBER, PERIOD LENGTH, & NUMBER OF STUDENTS OCCUPYING ROOM AT EACH PERIOD IT IS USED DURING THE WEEK SQ FT THIS FUNCTION 1204

PERCENTAGE SQ FT THIS FUNCTION 1.00

HOUR OF THE DAY	DAY OF THE WEEK MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	TOT PRDS-FAC / CONTACT HRS
7 00							
8 00	BIOL 0200 1.0 83		BIOL 0200 1.0 83	BIOL 0200 1.0 83	BIOL 0200 1.0 83		4.0
9 00	BIOL 0060 1.0 52	BIOL 1750 1.0 10	BIOL 0060 1.0 52	BIOL 1750 1.0 10	BIOL 0060 1.0 52		5.0
10 00	BIOL 0560 1.0 77	BIOL 1530 1.0 21	BIOL 0560 1.0 77	BIOL 1530 1.0 21	BIOL 0560 1.0 77		5.0
11 00	BIOL 0100 1.0 65		BIOL 0100 1.0 65	BIOL 0100 1.0 65	BIOL 0100 1.0 65		4.0
12 00	BIOL 0500 1.0 89		BIOL 0500 1.0 89		BIOL 0500 1.0 89		3.0
1 00	BIOL 0200 1.0 84		BIOL 0200 1.0 84	BIOL 0200 1.0 84	BIOL 0200 1.0 84		4.0
2 00	BIOL 0050 1.0 65	BIOL 0050 1.0 65	BIOL 0050 1.0 65	BIOL 0050 1.0 65	BIOL 0050 1.0 65		5.0
3 00	BIOL 0050 1.0 63	BIOL 0050 1.0 63	BIOL 0050 1.0 63	BIOL 0050 1.0 63	BIOL 0050 1.0 63		5.0
4 00	BIOL 0100 1.0 38		BIOL 0100 1.0 38	BIOL 0100 1.0 38	BIOL 0100 1.0 38		4.0
DAY TOT STU CONTACT HOURS	616	159	616	429	616		39.0 2436
5 00							
6 00		BIOL 1530 1.0 13		BIOL 1530 1.0 13			2.0

POTENTIAL STATION OCCUPANCY 3003

STANDARD UTILIZATION 1540

ACTUAL UTILIZATION TOT STUD CONT HRS 2436

PERCENTAGE STANDARD UTILIZATION 158

PERCENT / STUDENT STATIONS USED 81

GRAND TOT - DAY & EVE

POTENTIAL STATION OCCUPANCY 3157

STANDARD UTILIZATION 1540

ACTUAL UTILIZATION TOT STUD CONT HRS 2462

PERCENTAGE STANDARD UTILIZATION 160

PERCENT / STUDENT STATIONS USED 78

EXHIBIT 5

EXHIBIT 6

BUILDING NO 5 HARRINGTON HALL SUMMARY

LABORATORIES		CLASSROOMS	
SQ FT FLOOR SPACE	5845	SQ FT FLOOR SPACE	5982
NO STUD STATIONS	186	NO STUD STATIONS	307
SQ FT / STU STA	31	SQ FT / STU STA	19
SQ FT THIS FUNCTION	5845	SQ FT THIS FUNCTION	5982
NUMBER OF ROOMS	7	NUMBER OF ROOMS	8
NO ROOMS/PRORATION/	7.00	NO ROOMS/PRORATION/	8.00

TOTAL DAY CLASSES ONLY		GRAND TOT - DAY & EVE		TOTAL DAY CLASSES ONLY		GRAND TOT - DAY & EVE	
TOTAL PERIODS-FAC ULTY CONTACT HRS	230.2	TOTAL PERIODS-FAC ULTY CONTACT HRS	230.2	TOTAL PERIODS-FAC ULTY CONTACT HRS	340.0	TOTAL PERIODS-FAC ULTY CONTACT HRS	346.0
POTENTIAL STATION OCCUPANCY	6536	POTENTIAL STATION OCCUPANCY	6536	POTENTIAL STATION OCCUPANCY	14396	POTENTIAL STATION OCCUPANCY	14684
STANDARD UTILIZATION	3568	STANDARD UTILIZATION	3568	STANDARD UTILIZATION	6140	STANDARD UTILIZATION	6140
ACTUAL UTILIZATION TOT STUD CONT HRS	5633	ACTUAL UTILIZATION TOT STUD CONT HRS	5633	ACTUAL UTILIZATION TOT STUD CONT HRS	9450	ACTUAL UTILIZATION TOT STUD CONT HRS	9576
PERCENTAGE STANDARD UTILIZATION	158	PERCENTAGE STANDARD UTILIZATION	158	PERCENTAGE STANDARD UTILIZATION	154	PERCENTAGE STANDARD UTILIZATION	156
PERCENT / STUDENT STATIONS USED	86	PERCENT / STUDENT STATIONS USED	86	PERCENT / STUDENT STATIONS USED	66	PERCENT / STUDENT STATIONS USED	65
AV.ROOM PERIODS P/WEEK P/ROOM	32.9	AV.ROOM PERIODS P/WEEK P/ROOM	32.9	AV.ROOM PERIODS P/WEEK P/ROOM	42.5	AV.ROOM PERIODS P/WEEK P/ROOM	43.3

EXHIBIT 7

WISCONSIN STATE UNIVERSITY - OSHKOSH ENROLLMENT AND CONTACT HOUR REPORT / PROJECTION FEBRUARY 1966 PAGE 1

	65-66 ACTUAL				66-67 PROJECTED		67-68 PROJECTED		68-69 PROJECTED		69-70 PROJECTED		70-71 PROJECTED		71-72 PROJECTED		72-73 PROJECTED		73-74 PROJECTED		74-75 PROJECTED	
	GRD	U-GRD			GRD	U-GRD	GRD	U-GRD	GRD	U-GRD	GRD	U-GRD	GRD	U-GRD	GRD	U-GRD	GRD	U-GRD	GRD	U-GRD	GRD	U-GRD
ENROLLMENT	45	5226			65	7135	98	8635	200	9145	420	10480	530	11798	640	12964	750	14165	880	15441	1125	17003
CONTACT HOURS DEPARTMENT	FAC	STU	CONTCT HR RATIO		FAC	STU	FAC	STU	FAC	STU	FAC	STU	FAC	STU	FAC	STU	FAC	STU	FAC	STU	FAC	STU
MATH 1323	256.0	8365	1	28	296	11090	296	13451	296	14394	296	16789	296	18969	296	20954	296	22974	296	25135	296	27923
LAB	1.0	26			1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
MUST 1324	140.0	3759	1	27	140	5013	140	6081	140	6507	140	7590	140	8584	140	9472	140	10385	140	11364	140	12623
LAB	42.0	646			42	843	42	1022	42	1094	42	1276	42	1443	42	1593	42	1746	42	1911	42	2122
PHIL 1326	25.0	667	1	27	25	760	25	921	25	986	25	1150	25	1301	25	1435	25	1574	25	1722	25	1913
LAB	5.0	84			5	110	5	133	5	143	5	166	5	188	5	208	5	228	5	249	5	277
PHYE 1327	246.6	9307	1	38	246	12457	246	15110	246	16169	246	18859	246	21330	246	23538	246	25806	246	28239	246	31365
LAB	121.1	5707			121	7623	121	9246	121	9894	121	11540	121	13052	121	14403	121	15791	121	17279	121	19193
PHCE 1328	21.0	563	1	27	21	608	21	737	21	789	21	920	21	1040	21	1148	21	1259	21	1377	21	1530
LAB	8.0	226			8	293	8	356	8	381	8	444	8	502	8	554	8	607	8	665	8	738
PHYS 1329	113.0	1585	1	14	113	2127	113	2580	113	2761	113	3220	113	3642	113	4019	113	4406	113	4821	113	5355
LAB	44.0	526			44	696	44	845	44	904	44	1054	44	1192	44	1316	44	1442	44	1578	44	1753
PHGY 1330			1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LAB					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
POLI 1331	72.0	2739	1	38	72	3646	72	4422	72	4732	72	5520	72	6243	72	6889	72	7553	72	8265	72	9180
LAB					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PSYC 1332	84.0	4083	1	49	84	5469	84	6634	84	7098	84	8280	84	9364	84	10334	84	11329	84	12397	84	13770
LAB					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOCI 1333	48.0	2644	1	55	48	3494	48	4238	48	4535	48	5290	48	5983	48	6602	48	7238	48	7921	48	8798
LAB	2.0	12			2	0	2	0	2	0	2	0	2	0	2	0	2	0	2	0	2	0
SPCH 1334	152.0	3618	1	24	152	4710	152	5712	152	6113	152	7130	152	8064	152	8898	152	9756	152	10676	152	11858
LAB	2.0	56			2	73	2	89	2	95	2	111	2	126	2	138	2	152	2	166	2	185
EDUC 1350	256.0	7666	1	30	258	10179	258	12346	258	13211	258	15409	258	17428	258	19232	258	21085	258	23073	258	25628
LAB	3.0	46			3	37	3	44	3	48	3	55	3	63	3	69	3	76	3	83	3	92
UNAL 1399	49.0	2262	1	46	1438	2886	2603	3501	3067	3746	4249	4370	5333	4942	6303	5454	7298	5975	8366	6543	9739	7268
LAB	25.0	652			25	843	25	1022	25	1094	25	1276	25	1443	25	1593	25	1746	25	1911	25	2122
TOT FAC	4080.8		1	28	5469		6634		7098		8280		9364		10334		11329		12397		13770	
TOT STU		113185	STU/CONTCT HR RATIO			151920		184266		197180		229990		260121		287044		314707		344373		382501
TOT LAB&PE		27381	1	21.1		36648		44451		47566		55481		62750		69244		75917		83074		92272
TOT CLSRMS		85804				115272		139815		149614		174509		197371		217800		238790		261299		290229

	CLSRMS	LABS	OFFICES	LIBRY	AUDITA	OINSTR	TACTINS	RSRCH	EX&PS	PHY ED	LBSCH	AUXENT	PHPLT	OACTNI
TO BE REMODLED	1516		1632			320	3468	230					- 8698	
03HALSEY SCIE	1516		1632			320	3468	230					- 8698	
TO BE RAZED/SL														
TO BE BLT/PUR	12000	75000	32000			50000	169000							
81 FINE ARTS	12000	75000	32000			50000	169000							

	TACTINS	TACTNIN	TINACT	TASSIGN	CIRCUL	RSTRMS	CUSTOD	NONUSE	TNASSGN	NETFLSP
TO BE REMODLED	3468 -	8468	-	5000					-	5000
03HALSEY SCIE	3468 -	8468	-	5000					-	5000
TO BE RAZED/SL										
TO BE BLT/PUR	169000			169000						169000
81 FINE ARTS	169000			169000						169000

EXHIBIT 8

WISCONSIN STATE UNIVERSITY - OSHKOSH PHYSICAL FACILITIES PROJECTED REQUIREMENTS - CLASSROOM DETAIL FEBRUARY 1966

EXHIBIT 9

/ THIS YEAR / STU STA NO PER RM CLS	70-71 PROJECTED NO RMS/SQ FT RQUIRD	AVLBLE	-SHORT &OVER	71-72 PROJECTED NO RMS/SQ FT RQUIRD	AVLBLE	-SHORT &OVER	72-73 PROJECTED NO RMS/SQ FT RQUIRD	AVLBLE	-SHORT &OVER	73-74 PROJECTED NO RMS/SQ FT RQUIRD	AVLBLE	-SHORT &OVER	74-75 PROJECTED NO RMS/SQ FT RQUIRD	AVLBLE	-SHORT &OVER
10 107.0	8	2	-7	9	2	-8	9	2	-9	10	2	-10	12	2	-11
	1636	49	-1587	1806	49	-1757	1980	49	-1931	2167	49	-2118	2407	49	-2358
15 108.0	8	1	-7	9	1	-8	10	1	-9	11	1	-10	12	1	-11
	2478	271	-2207	2734	271	-2463	2998	271	-2727	3280	271	-3009	3644	271	-3373
20 150.0	11	6	-7	12	6	-8	14	6	-9	15	6	-10	17	6	-12
	3441	1477	-1964	3798	1477	-2321	4164	1477	-2687	4556	1477	-3079	5061	1477	-3584
25 91.0	7	2	-5	8	2	-6	8	2	-6	9	2	-7	10	2	-8
	2610	748	-1862	2880	748	-2132	3157	748	-2409	3455	748	-2707	3838	748	-3090
30 293.0	22	1	-21	25	1	-23	27	1	-26	30	1	-29	33	1	-32
	10084	447	-9637	11129	447	-10682	12201	447	-11754	13351	447	-12904	14830	447	-14383
35 369.0	29	3	-25	31	3	-28	34	3	-31	37	3	-34	41	3	-39
	14817	1602	-13215	16352	1602	-14750	17927	1602	-16325	19617	1602	-18015	21789	1602	-20187
40 419.2	32	10	-24	35	10	-28	39	10	-31	42	10	-35	47	10	-39
	19238	4776	-14462	21231	4776	-16455	23275	4776	-18499	25469	4776	-20693	28290	4776	-23514
45 602.0	46	4	-43	51	4	-47	56	4	-53	61	4	-57	68	4	-64
	31081	2047	-29034	34300	2047	-32253	37603	2047	-35556	41148	2047	-39101	45705	2047	-43658
50 251.0	19	5	-14	21	5	-17	23	5	-18	26	5	-21	28	5	-24
	14398	3715	-10683	15890	3715	-12175	17420	3715	-13705	19062	3715	-15347	21173	3715	-17458
55 174.1	13	10	-4	15	10	-5	16	10	-6	17	10	-8	20	10	-10
	10986	7933	-3053	12124	7933	-4191	13291	7933	-5358	14544	7933	-6611	16155	7933	-8222
60 126.2	10	11	0	10	11	-1	12	11	-2	13	11	-3	14	11	-4
	8687	8743	55	9587	8743	-844	10510	8743	-1767	11501	8743	-2758	12775	8743	-4032
65 55.0	4	2	-3	5	2	-3	5	2	-4	6	2	-4	6	2	-5
	4101	988	-3113	4526	988	-3538	4962	988	-3974	5430	988	-4442	6031	988	-5043
70 38.0	3	6	1	3	6	0	3	6	0	3	6	0	4	6	0
	3051	5053	2001	3368	5053	1684	3692	5053	1360	4040	5053	1012	4487	5053	565
80 74.0	5	5	0	6	5	0	7	5	-1	8	5	-2	8	5	-3
	6792	5967	-825	7495	5967	-1528	8217	5967	-2250	8992	5967	-3025	9988	5967	-4021
100 49.0	4	4	-1	4	4	-2	4	4	-2	5	4	-2	6	4	-3
	5621	3650	-1971	6204	3650	-2554	6801	3650	-3151	7442	3650	-3792	8267	3650	-4617
125 38.0	3	4	0	3	4	0	4	4	0	3	4	0	4	4	0
	5449	7646	2196	6014	7646	1631	6593	7646	1052	7214	7646	431	8014	7646	-368
TOTAL	194050	171608	-22442	214134	178608	-35526	234771	185603	-49163	256902	192603	-64294	285345	19960	-85737
PHYED TOT	117116	40947	-76169	129238	40947	-88291	141692	40947	-100745	155049	40947	-114102	172215	40947	-131267

EXHIBIT 10

DEPARTMENT/ DISCIPLINE	70-71 PROJECTED SQ FEET RQUIRD	AVLBLE	-SHORT &OVER	71-72 PROJECTED SQ FEET RQUIRD	AVLBLE	-SHORT &OVER	72-73 PROJECTED SQ FEET RQUIRD	AVLBLE	-SHORT &OVER	73-74 PROJECTED SQ FEET RQUIRD	AVLBLE	-SHORT &OVER	74-75 PROJECTED SQ FEET RQUIRD	AVLBLE	-SHORT &OVER
AGRI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ART	13620	500	-13120	15030	500	-14530	16478	500	-15978	18032	500	-17532	20029	500	-19529
BIOL	15131	6811	-8320	16698	6811	-9887	18306	6811	-11495	20031	6811	-13220	22251	6811	-15440
BUS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENOR	4901	1462	-3439	5407	1462	-3945	5930	1462	-4468	6488	1462	-5026	7208	1462	-5746
DRAF	842	212	-630	930	212	-718	1019	212	-807	1116	212	-904	1239	212	-1027
EDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GEOL	8170	1365	-6805	9015	1365	-7650	9885	1365	-8520	10815	1365	-9450	12014	1365	-10649
HOME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IN T	573	618	45	633	618	-15	694	618	-76	759	618	-141	843	618	-225
LANG	0	456	456	0	456	456	0	456	456	0	456	456	0	456	456
MU R	744	912	168	822	912	90	900	912	12	986	912	-74	1095	912	-183
NU P	1918	2147	229	2117	2147	30	2321	2147	-174	2540	2147	-393	2822	2147	-675
PSYC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPCH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	45899	14483	-31416	50652	14483	-36169	55533	14483	-41050	60767	14483	-46284	67501	14483	-53018

WISCONSIN STATE UNIVERSITY - OSHKOSH PHYSICAL FACILITIES PROJECTED REQUIREMENTS - LIBRARY DETAIL FEBRUARY 1966

EXHIBIT 11

	65-66	66-67	67-68	68-69	69-70	70-71	71-72	72-73	73-74	74-75
READING RM	26875	36000	43665	46725	54500	61640	68020	74575	81605	90640
STACK SPAC	16125	21600	26199	28035	32700	36984	40812	44745	48963	54384
OFF & AUX	6718	9000	10916	11681	13625	15410	17005	18643	20401	22660
CARRELS	122	162	245	500	1050	1325	1600	1875	2200	2812
TOTAL REQ	49840	66762	81025	86941	101875	115359	127437	139838	153169	170496
TOT AVAIL	26748	26748	26748	91748						
&OVER-SHRT	-23092	-40014	-54277	4807						

EXHIBIT 12

DEPARTMENT NAME		70-71 PROJECTED NO PER	SQ FEET RQUIRD	AVBLE	-SHORT &OVER	71-72 PROJECTED NO PER	SQ FEET RQUIRD	AVBLE	-SHORT &OVER	72-73 PROJECTED NO PER	SQ FEET RQUIRD	AVBLE	-SHORT &OVER	73-74 PROJECTED NO PER	SQ FEET RQUIRD	AVBLE	-SHORT &OVER	74-75 PROJECTED NO PER	SQ FEET RQUIRD	AVBLE	-SHORT &OVER
ART	FAC	44	6480	1092	-5388	48	7020	1092	-5928	52	7695	1092	-6603	57	8370	1092	-7278	63	9315	1092	-8223
	STF	4				4				5				5				6			
AUDI	FAC	5	675	276	-399	5	675	276	-399	6	810	276	-534	6	810	276	-534	7	945	276	-669
	STF	0				0				0				0				0			
BIOL	FAC	54	7965	1934	-6031	59	8640	1934	-6706	65	9585	1934	-7651	71	10530	1934	-8596	78	11475	1934	-9541
	STF	5				5				6				7				7			
BUSI	FAC	7	945	0	-945	8	1080	0	-1080	9	1215	0	-1215	10	1485	0	-1485	11	1620	0	-1620
	STF	0				0				0				1				1			
CHEM	FAC	28	4050	1082	-2968	31	4590	1082	-3508	34	4995	1082	-3913	37	5400	1082	-4318	41	6075	1082	-4993
	STF	2				3				3				3				4			
ECON	FAC	13	1890	489	-1401	14	2025	489	-1536	15	2160	489	-1671	17	2430	489	-1941	18	2565	489	-2076
	STF	1				1				1				1				1			
ENGL	FAC	135	19980	2030	-17950	148	21870	2030	-19840	161	23895	2030	-21865	175	25920	2030	-23890	194	28755	2030	-26725
	STF	13				14				16				17				19			
LANG	FAC	33	4860	1208	-3652	37	5400	1208	-4192	40	5940	1208	-4732	44	6480	1208	-5272	48	7020	1208	-5812
	STF	3				3				4				4				4			
GEOG	FAC	23	3375	2631	-744	25	3645	2631	-1014	28	4050	2631	-1419	30	4455	2631	-1824	33	4860	2631	-2229
	STF	2				2				2				3				3			
GEOL	FAC	10	1485	882	-603	11	1620	882	-738	12	1755	882	-873	13	1890	882	-1008	15	2160	882	-1278
	STF	1				1				1				1				1			
HIST	FAC	49	7155	684	-6471	54	7965	684	-7281	59	8640	684	-7956	64	9450	684	-8766	71	10530	684	-9846
	STF	4				5				5				6				7			
JOUR	FAC	2	270	0	-270	3	405	0	-405	3	405	0	-405	3	405	0	-405	3	405	0	-405
	STF	0				0				0				0				0			
LIBS	FAC	2	270	0	-270	3	405	0	-405	3	405	0	-405	3	405	0	-405	3	405	0	-405
	STF	0				0				0				0				0			
MATH	FAC	62	9180	1129	-8051	68	9990	1129	-8861	74	10935	1129	-9806	81	12015	1129	-10886	89	13095	1129	-11966
	STF	6				6				7				8				8			
MUSI	FAC	44	6480	507	-5973	48	7020	507	-6513	52	7695	507	-7188	57	8370	507	-7863	63	9315	507	-8808
	STF	4				4				5				5				6			
PHIL	FAC	5	675	0	-675	5	675	0	-675	6	810	0	-810	6	810	0	-810	7	945	0	-945
	STF	0				0				0				0				0			

WISCONSIN STATE UNIVERSITY - OSHKOSH — PHYSICAL FACILITIES PROJECTED REQUIREMENTS - DEPARTMENTAL SUMMARIES — FEBRUARY 1966

EXHIBIT 13

DEPARTMENT /ACTIVITY NAME	NO	70-71 PROJECTED SQ RQUIRD	FEET AVLBLE	-SHORT &OVER	71-72 PROJECTED SQ RQUIRD	FEET AVLBLE	-SHORT &OVER	72-73 PROJECTED SQ RQUIRD	FEET AVLBLE	-SHORT &OVER	73-74 PROJECTED SQ RQUIRD	FEET AVLBLE	-SHORT &OVER	74-75 PROJECTED SQ RQUIRD	FEET AVLBLE	-SHORT &OVER
PHYS 1329	CLRMS	2130	2408	278	2216	2657	441	2303	2914	611	2390	3188	798	2477	3541	1064
	LABS	4795	3794	-1001	5292	3794	-1498	5802	3794	-2008	6350	3794	-2556	7055	3794	-3261
	O INS	1918	2147	229	2117	2147	30	2321	2147	-174	2540	2147	-393	2822	2147	-675
	OFFCS	2970	967	-2003	3240	967	-2273	3645	967	-2678	3915	967	-2948	4455	967	-3488
	TOTAL	11813	9316	-2497	12865	9565	-3300	14071	9822	-4249	15195	10096	-5099	16809	10449	-6360
POLI 1331	CLRMS	5428	6137	709	5649	6773	1124	5870	7425	1555	6092	8125	2033	6313	9025	2712
	OFFCS	2565	558	-2007	2970	558	-2412	3105	558	-2547	3375	558	-2817	3780	558	-3222
	TOTAL	7993	6695	-1298	8619	7331	-1288	8975	7983	-992	9467	8683	-784	10093	9583	-510
PSYC 1332	CLRMS	8141	9206	1065	8474	10160	1686	8805	11138	2333	9138	12188	3050	9470	13538	4068
	LABS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	OFFCS	3375	686	-2689	3645	686	-2959	4050	686	-3364	4455	686	-3769	4860	686	-4174
	TOTAL	11516	9892	-1624	12119	10846	-1273	12855	11824	-1031	13593	12874	-719	14330	14224	-106
SOCI 1333	CLRMS	5202	5882	680	5414	6490	1076	5625	7116	1491	5838	7787	1949	6050	8649	2599
	OFFCS	2565	319	-2246	2970	319	-2651	3105	319	-2786	3375	319	-3056	3780	319	-3461
	TOTAL	7767	6201	-1566	8384	6809	-1575	8730	7435	-1295	9213	8106	-1107	9830	8968	-862
SPCH 1334	CLRMS	6901	7804	903	7183	8612	1429	7465	9442	1977	7747	10333	2586	8028	11476	3448
	LABS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	OFFCS	5670	1088	-4582	6210	1088	-5122	6750	1088	-5662	7425	1088	-6337	8235	1088	-7147
	TOTAL	12571	8892	-3679	13393	9700	-3693	14215	10530	-3685	15172	11421	-3751	16263	12564	-3699
GRAD 1349	OFFCS	0	255	255	0	255	255	0	255	255	0	255	255	0	255	255
	TOTAL	0	255	255	0	255	255	0	255	255	0	255	255	0	255	255
EDUC 1350	CLRMS	15098	17072	1974	15714	18840	3126	16329	20655	4326	16946	22603	5657	17562	25106	7544
	LABS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	OFFCS	7695	5070	-2625	8370	5070	-3300	9180	5070	-4110	9855	5070	-4785	10935	5070	-5865
	TOTAL	22793	22142	-651	24084	23910	-174	25509	25725	216	26801	27673	872	28497	30176	1679
INDG 1355	LABS	2105	1105	-1000	2325	1105	-1220	2547	1105	-1442	2790	1105	-1685	3097	1105	-1992
	O INS	842	212	-630	930	212	-718	1019	212	-807	1116	212	-904	1239	212	-1027
	TOTAL	2947	1317	-1630	3255	1317	-1938	3566	1317	-2249	3906	1317	-2589	4336	1317	-3019
INDT 1358	LABS	1432	1316	-116	1582	1316	-266	1735	1316	-419	1897	1316	-581	2107	1316	-791
	O INS	573	618	45	633	618	-15	694	618	-76	759	618	-141	843	618	-225
	TOTAL	2005	1934	-71	2215	1934	-281	2429	1934	-495	2656	1934	-722	2950	1934	-1016
MECH 1374	OFFCS	0	138	138	0	138	138	0	138	138	0	138	138	0	138	138
	TOTAL	0	138	138	0	138	138	0	138	138	0	138	138	0	138	138

EXHIBIT 14

	CLRMS	LABS	OFFCES	LIBRY	AUDITA	OINSTR	TACTINS	RSRCH	EX&PS	PHY ED	LBSCH	AUXENT	PHPLT	OACTNI
REQUIRED 67-68	137462	81274	103985	81025	40754	32510	477010	17862	1428	82963	25726	75849	14869	4783
TO BE REMODLED	1516	0	1632	0	0	320	3468	230	0	0	0	0	-8698	0
TO BE RAZED/SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TO BE BLT/PUR	12000	75000	32000	0	0	50000	169000	0	0	0	0	0	0	0
AVAILABLE 67-68	150608	121824	89160	26748	0	72267	460607	4506	1428	40947	25726	75849	6171	4783
-SHORT &OVER	13146	40550	-14825	-54277	-40754	39757	-16403	-13356	0	-42016	0	0	-8698	0

	TACTINS	TACTNIN	TINACT	TASSIGN	TNASSGN	NETFLSP	GROSS
REQUIRED 67-68	477010	223480	6772	707262	226323	933585	1131619
TO BE REMODLED	3468	-8468	0	-5000	-1600	-6600	-8000
TO BE RAZED/SD	0	0	0	0	0	0	0
TO BE BLT/PUR	169000	0	0	169000	54080	223080	270400
AVAILABLE 67-68	460607	159410	6772	626789	200572	827361	1002862
-SHORT &OVER	-16403	-64070	0	-80473	-25751	-106224	-128757

	CLRMS	LABS	OFFCES	LIBRY	AUDITA	OINSTR	TACTINS	RSRCH	EX&PS	PHY ED	LBSCH	AUXENT	PHPLT	OACTNI
REQUIRED 68-69	147096	86961	110015	86941	43610	34785	509408	34794	1428	88777	25726	75849	14869	4783
TO BE REMODLED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TO BE RAZED/SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TO BE BLT/PUR	7000	0	9999	65000	0	0	81999	0	0	0	0	0	0	0
AVAILABLE 68-69	157608	121824	99159	91748	0	72267	542606	4506	1428	40947	25726	75849	6171	4783
-SHORT &OVER	10512	34863	-10856	4807	-43610	37482	33198	-30288	0	-47830	0	0	-8698	0

	TACTINS	TACTNIN	TINACT	TASSIGN	TNASSGN	NETFLSP	GROSS
REQUIRED 68-69	509408	246226	6772	762406	243969	1006375	1219849
TO BE REMODLED	0	0	0	0	0	0	0
TO BE RAZED/SD	0	0	0	0	0	0	0
TO BE BLT/PUR	81999	0	0	81999	26239	108238	131198
AVAILABLE 68-69	542606	159410	6772	708788	226811	935599	1134060
-SHORT &OVER	33198	-86816	0	-53618	-17158	-70776	-85789