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ABSTRACT

The amount of research space required in higher education depends first upon the level of activity devoted to research by those who participate, and second upon the type of academic program involved, e.g. humanities, social sciences, engineering. Knowledge of numbers, of faculty as well as of graduate students, is vital to achieve meaningful space projections. The guidelines should allow space based on established educational experience within the several academic disciplines, with certain exceptions such as a biotron complex or pollution research facility. The procedure calls for the weighting of personnel based upon time spent in research and the weighting of academic disciplines based upon prior knowledge of space needs. The two factors are multiplied to arrive at the number of net assignable square feet of space. (NI)

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RESEARCH SPACE GUIDELINES

The projection of required space for research is one of the most difficult problems facing educational space estimators. Not alone is the matter of appropriate allowances for current programs complicated, but the matter of estimating future requirements in dynamic areas of scholarship is even more difficult. There is an obligation, nevertheless, to determine a concept and find a method flexible enough to bridge both current and future programs. Like other guidelines for space, the research guideline should support program determinations and should permit imaginative institutional planning. Then, too, we must recognize that a substantial portion of the research space is funded by other than state appropriations, and guidelines must allow for this continuing advantageous relationship. The guidelines developed should be relatively easy to apply as a review tool at the Coordinating Committee level based upon identifiable data.

The work that has been done in this area in other states is primarily based on the concept that space research needs are a function of two factors:

I. The level of activity devoted to research by all levels of participating personnel.

II. The varying amounts of space required to conduct different types of academic research programs.

The staff's proposed concept follows these two factors.

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Comment on Factor I

The persons involved in research programs range from participating, full professors to the technical and administrative personnel in the laboratories.

The Coordinating Committee staff believes that a common denominator within the research personnel group is the graduate student and the degree of research involvement appropriate to his academic attainment. We believe there is an historic and deliberate policy relationship between graduate work and research activity in Wisconsin's state-supported universities. There is, however, the additional relationship between faculty personnel and research space. The staff believes that a measure of faculty research participation is essential to a meaningful guideline.

Comment on Factor II

It is axiomatic that research programs vary substantially in space requirements depending upon the academic discipline being pursued. At the Coordinating Committee level, the several disciplines can be dealt with in broad categories (notably humanities, social studies, physical sciences, engineering, agriculture, and life sciences). The guidelines should allow space based on established educational experience within these several academic categories. A list of disciplines by category will be found in Appendix A.

Exceptions

While the research space guidelines can serve to facilitate the determination of space needed for most research activities, it is recognized that several facilities are of a special nature. They must be treated separately and on their own merits. Certain facilities house specialized equipment or processes requiring supporting space above and beyond the normal allowance by academic category. These could include, by way of example, a biotron complex, a nuclear accelerator, or a pollution research facility. The list of exceptions will be developed by the Coordinating Committee staff in consultation with the systems.

Then, too, there are certain activities oriented to public service missions, operating under contract or with few or no associated graduate students. Space for these programs should be dealt with separately. Space to house such specialized equipment or exceptional programs should be justified on a case by case basis and personnel associated with these exceptions will be excluded from the general research space computations.

Assumptions

In order to compute the specific research space guidelines, certain assumptions are necessary:

(a) Full-time teaching faculty spend 20% of their time in scholarly research activities.

(b) Full-time research faculty spend 100% of their time in research activities.

(c) Master's degree candidates spend 20% of their time in research activities.

(d) Doctoral degree candidates spend 80% of their time in research activities.

(e) Post-doctoral fellows spend 100% of their time in research activities.

Procedure

1. Factor I

Each faculty member and graduate student is assigned a number which represents the research demand units he will generate.

a. Full-time teaching faculty - 3 research demand units

b. Full-time research faculty - 15 research demand units

c. Master's degree candidates - 3 research demand units

d. Doctoral degree candidates - 12 research demand units

e. Post-doctoral fellows - 15 research demand units

2. Factor II

Educational experience indicates that the following relationship is appropriate for the broad categories of academic disciplines as related to demand units:

a. Humanities - 3 net assignable square feet/demand units

b. Social studies - 8

c. Physical sciences - 29

d. Life science - 28

e. Engineering - 31

f. Agriculture - 33

3. Research Standards

Multiplication of Factor I (demand unit) by Factor II (net assignable square feet) produces the appropriate research space for any given campus. The space variations within the several categories of disciplines will flow from the variety of personnel combinations found from campus to campus. Appendix B illustrates the guideline methodology described above as it applies to Life Science at the Madison Campus.

Appendix A : Discipline by Category

Agriculture

Agronomy
Dairy & Food Industries
Dairy Science
Foods & Nutrition
Forestry
Horticulture
Landscape Architecture
Meat & Animal Science
Plant Pathology
Poultry Science
Veterinary Science
Wildlife Management

Engineering

Agricultural
Chemical
Civil
Electrical
Graphics
Mechanical
Mechanics
Minerals & Metals
Nuclear

Humanities

African Languages & Literature
Art History
Chinese
Classics
Comparative Literature
English
French & Italian
German
Hebrew & Semetic Studies
History of Science
Indian Studies
Library Science
Linguistics
Mathematics
Music
Philosophy
Related Arts
Scandinavian Studies
Slavic Languages
Spanish & Portuguese
Speech

Life Science

Bacteriology
Botany
Entomology
Genetics
Zoology

Physical Sciences

Astronomy
Biochemistry
Chemistry
Geology
Meterology
Pharmacy
Physics
Soils

Social Studies

Agricultural Economics
Agricultural & Extension Education
Agricultural Foundation
Anthropology
Art & Art Education
Commerce
Counseling & Behavioral Studies
Curriculum & Instruction
Economics
Education Administration
Educational Policy Studies
Educational Psychology
Geography
History
Home Economics & Extension Education
Home Management & Family Living
Journalism
Law
Physical Education
Political Science
Psychology
Rural Sociology
Social Work
Sociology

Appendix B

Life Science Research Space Needs

The University of Wisconsin - Madison

Fall Semester 1970

1.	Number of full-time teaching faculty	50	x	3	=	150	x	28 nasf/unit	=	4200 nasf
2.	Number of full-time research faculty	148	x	15	=	2220	x	28 nasf/unit	=	62160 nasf
3.	Number of Master's Degree candidates	204	x	3	=	312	x	28 nasf/unit	=	17136 nasf
4.	Number of Doctor's Degree candidates	177	x	12	=	2124	x	28 nasf/unit	=	59472 nasf
5.	Number of Post-Doctoral Fellows	57	x	15	=	855	x	28 nasf/unit	=	23940 nasf
6.	Total research space needs									166,908 nasf