



Space Planning Guidelines

Draft

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Absent specific space guidelines from the University System Board of Regents, the University of West Georgia asked CFP to prescribe a series of space guidelines that would help them manage existing space and program future space in an efficient and productive manner.

CFP has provided such assistance at other institutions such as Wake Forest University, Rice University, and Auburn University. Utilizing much of what has been learned at these campuses, the following draft space planning guidelines are presented for consideration and eventual application at UWG.

Space Planning Guidelines Overview

This space needs model generates for each department or unit an office need calculation; a laboratory need calculation for academic units (teaching labs, research labs and computer labs), classrooms, student lounges, and other needs by space type. These guidelines address only the major categories and types of space at UWG. The space needs model also addresses certain types of space on a “campus wide basis”. Generally these types of spaces are considered to be institutional resources that are used and available to most of the university population. These space types include; athletic /PE/ recreation; assembly; exhibition, food facilities merchandising space, meeting rooms, and campus support facilities (such as physical plant shops, central storage and data processing areas). The guidelines detailed in the following pages are therefore divided into departmental and campus wide categories and are further separated by room type.

The space needs model does not include all types of space or operations. The model excludes non-assignable space (i.e. corridors, mechanical rooms, restrooms), any space located in residence halls, laboratory schools, and non-university operations such as business incubators. Specific room types exempt from the space needs model include all rooms with a “X”, “Y” or “W” room type (non-assigned space) - custodial, building mechanical, building circulation space, restrooms etc.), all rooms with a “9xx” room type (residential space) along with any other residential-related space located within a residence hall (i.e., lounges, offices, libraries).

Office Space

Office Guidelines

Office facilities are individual, multi-person, or workstation space, plus support spaces including lounges, reception and waiting areas, conference rooms, and service areas for copiers and files.

The office space needs consist of two parts: 1) office space and 2) office support – lounge space, conferencing space and service space. The office service recommendations are outlined in the following section.

The office space need is determined by multiplying the number of headcount personnel by position by a module (office size in square feet) appropriate for that position. The office guidelines presented below are divided into fifteen modules that specify the office requirement by position type. This approach varies from most other guidelines by specifying needs by position type especially for senior administrative positions. A more accurate office needs profile may be developed by this detailed approach by recognizing different levels of responsibilities and therefore larger office requirements of senior administrators.

The office needs calculation for various types of part time positions, such as adjunct faculty and student workers, should be further refined to include a prorated estimate of the number of positions that may require the use of office space at any one time or peak use. For example, Department A employs 25 adjunct faculty but historically only 25% of them are on campus teaching at any given period and might require the use of office space. The estimated space need for adjunct faculty office space for Department A would therefore be 240 ASF (25 x 25%) x 40 ASF).

		USG	Proposed
	Room Type	Guideline	UWG
			Guideline
301	President's Office	225-300	500
302	Vice President's Office	200-250	350
303	Dean's Office	200-250	220
304	Asst/Assoc. Administrator	N/A	200
305	Director/Chair Office	125-175	200
306	Asst/Assoc. Director Office	N/A	180
311	Faculty Office	115-130	150
312	Administrative Office	100-110	140
313	Clerical Office	100-120	120
314	Staff Office	100-110	140
316	Faculty Studio*	0	225
320	Graduate Student Office	0	75
322	Student Worker Office	60-80	25
325	Adjunct Faculty Office	N/A	40
330	Student Organization Office	N/A	150

*Note: For some disciplines such as art and music research activity may be performed in the office area. Therefore the offices will be larger than a standard faculty office. Research labs may not be required in those disciplines.

Office Support Guidelines

Office Service

Typical office service space needs (areas for files, non-staffed waiting areas, copy machines, supply storage, etc.) are based on a percent of the total calculated office space required for a department, college or unit. For most academic departments units ten percent (10%) is used whereas for some larger administrative units such as colleges or senior administrative offices 20 percent (20%) is used. For other administrative departments, fifteen percent (15%) should be used.

Certain office functions also have special service needs that are supplemental to the above guidelines. These additional needs are specific to certain units and include waiting rooms, processing rooms and departmental storage. Departments which have high daily client traffic (i.e., senior administrative offices, student services operations) may require an expanded waiting room area. A waiting room module of 120 ASF for most administrative offices should be used, while needs for student service operations are based on a factor of .03 ASF/Student FTE plus a 200 ASF minimum. Other units may need special processing areas for assembling and distributing materials. A module of 500 ASF is recommended for processing rooms. A third special need is departmental storage for operations required to maintain and store records or files for extended periods such as human resources or the controller's office. A factor of 15 ASF per department headcount staff is recommended.

Conference Rooms

Each department should contribute to a conferencing space need. This space is calculated based on 18 ASF per number of faculty and professional staff personnel. This is an average and the actual ASF per station will vary depending on the size of the conference room. In some cases the calculated need may generate an amount of space that is not functional. In these cases it is assumed that departments located in the same facility may combine their needs and share space.

The University may also consider applying minimum sized conference room space for senior administrative positions since the size of the staffs within these offices may not generate a functional space. For the President a minimum of 650 ASF is suggested; Vice Presidents – 350 ASF; Academic Deans – 180 ASF.

Office Lounges

Office lounge space is calculated based on the number of regular personnel (excluding graduate students and student workers) in a department or unit times 5 ASF. In some cases the calculated need for smaller units may generate an amount of space that is not functional. In these cases similar sized departments located in the same facility may combine their needs and share space.

Instructional Laboratory Guidelines

While an ASF / FTE figure may give a good idea as to the total amount of class lab space that may be required at an institution, these guidelines apply a detailed calculation based on the disciplines offered by the University and the amount of time required for the lab use. Therefore the following formula and factors are applied. The station size (module) for the various disciplines has changed over the years as technology and the method of teaching/learning changes and is expected to continue to evolve.

Formula for Calculating Teaching Laboratory Space

The required laboratory ASF is determined by the multiplying the space factor by the actual Weekly Student Contact Hours (WSCH) taught by the respective program or can be estimated from converted student credit hours. The space factor formula used for class labs is:

$$\text{Space factor} = \frac{\text{Station Size (Module)}}{\text{Hrs. per Week (WRH) x Occupancy Rate (Station Use)}}$$

The space factor is then multiplied by the Weekly Student Contact Hours (WSCH) to produce the total ASF required for laboratories.

The following table indicates the recommended space criteria and factors for most of the major teaching labs at UWG.

Department	Lab Type	WRH	Station Occup	Lab Module	Space Factor
Anthropology	ANTHROPOLOGY LAB	22	0.8	60	3.41
Art	GRAPHIC DESIGN STUDIO	18	0.8	70	4.86
Art	DRAWING OR PAINTING STUDIO	18	0.8	70	4.86
Art	PRINTMAKING LAB	18	0.8	70	4.86
Art	ART EDUC STUDIO	22	0.8	50	2.84
Art	INTERIOR DESIGN STUDIO	18	0.8	70	4.86
Biology	BIOLOGY LAB	22	0.8	55	3.13
Chemistry	CHEMISTRY LAB	18	0.8	65	4.51
Computer Science	COMPUTER CLASS LAB	30	0.8	35	1.46
Geosciences	GEOLOGY LAB	22	0.8	50	2.84
Leadership and Applied Instruction	HUMAN PERFORMANCE LAB	18	0.8	75	5.21
Mass Communications	SPEECH LAB	22	0.8	40	2.27
Music	PIANO LAB	22	0.8	120	6.82
Music	CHOIR ROOM	22	0.8	120	6.82
Music	BAND ROOM	22	0.8	80	4.55
Music	PERCUSSION STUDIO	22	0.8	80	4.55
Nursing	NURSING LAB	15	0.8	85	7.08
Physics	PHYSICS LAB	22	0.8	60	3.41
Theatre Arts	THEATER PRACTICE LAB	15	0.8	125	10.42

Module Size (ASF / Station)

The teaching lab module (station size) varies by discipline (CIP code). The lab module size ranges from 35 ASF per station for disciplines such as Languages and Computer Science to 120 ASF per station for Dance. For example, a general biology lab with 24 stations with prep room would contain approximately 1,320 ASF (55 x 24).

Weekly Room Hours (WRH)

With West Georgia the total day time available for laboratory work is normally 45 hours. The period of time is Monday thru Friday from 8 AM to 5 PM. Normally it is assumed that labs should be used 50 percent of the time. This allows for set-up time and open use. Using Biology as an example, it is assumed that 22 hours of these 45 are available for scheduled activity. The remaining time (23 hours) is available for setting up lab classes and non scheduled lab use. The WRHs used in these calculations range from 15 for disciplines such as Nursing (limited time available for lab work due to requirements in other facilities such as clinics) and Chemistry (longer set-up time requirements) to 22 WRHs (for the majority of the other disciplines).

Determining Weekly Student Contact Hours (Periods of Use) for Teaching Laboratories

The amount of space required for teaching laboratories is driven in part by the room use. This use is determined by the number of Weekly Student Contact Hours (WSCH) or time spent by the students in scheduled courses. This information can usually be obtained from the Class File (courses scheduled). However, there may be programs where the WSCH data is not recorded in the class file. For example, the Nursing program contact hour data cannot be accurately reported because of the flexible nature of the schedule for many of the courses many times impacted by clinical instruction. In these cases the WSCH should be estimated from the student credit hours generated by the lab-based courses. In conjunction with the department the University will need to develop a typical student profile of the estimated time spent in classroom instruction, lab instruction and, in our hypothetical Nursing case, clinical instruction. If the Nursing students taking lab based courses generate 2,525 SCH for the semester, and our student profile reveals the typical Nursing student spends 70% of their time in classroom instruction; 35% in lab instruction; and 15% of their time in clinical instruction, the credit hours can be converted to contact hours in labs to provide the demand for calculating the lab need. In this example, 884 WSCH is estimated (2,525 x 35%), which generates a calculated lab need of 6,260 ASF (7.08 x 884).

Research Laboratory Guidelines

A room used primarily for laboratory experimentation, research or training in research methods; or professional research and observation; or structural creative activity within a specific program.

The method used for calculating research lab space is based on the percent of master and doctoral students, the percent of technicians, the percent of faculty, and number of research scientists conducting research at a given time by a module for each discipline. A periodic survey of colleges or departments to ascertain the lab-based personnel data is to be conducted to update this data. *Note: The process provides a method for including an allocation of research space for undergraduate students. The FTE undergraduate students conducting research is multiplied by a prorated module of one-third the typical module used for other researchers.*

The research lab module is the amount of space allocated for each researcher. A research lab normally houses a number of researchers. For example, a faculty member doing research may have a post doc and two graduate students conducting research in the lab. Therefore on average the core lab size would be 1,200 ASF (4 times the 300 ASF module). If there is a need for specialized equipment such as a room housing an NMR, the space is classified separately as a special use lab. A faculty member with several large grants could have several research labs depending on the number of researchers involved.

The table below displays the recommended research lab modules for the UWG programs that currently have dedicated research lab space.

Department	Module
Biology	325
Chemistry	325
Computer Science	50
Collaborative Support and Intervention	200
Geosciences	300
Physics	300
Psychology	150

For selective disciplines part of the research lab calculation also includes an allocation for special use space. Special use labs are usually spaces that are not assigned to a specific faculty or researcher and likely are a shared space. These areas are functionally unique usually because of specialized equipment. Examples of these types of spaces include wind tunnels, wave tanks, electron microscopy rooms, NMR rooms, etc. A supplemental space module is allocated for special use space, typically 20% of a full research lab module. This module is then multiplied to the number of researchers conducting lab-based research to generate the special use allocation.

Classroom Guidelines

A room used for classes and not tied to a specific discipline or subject by the equipment in the room or the configuration of the room. Lecture halls, seminar rooms, and general-purpose classrooms are included here. The recommended planning factors for classrooms are presented below. These factors are based on daytime use for the UWG campus, which teaches over 85% of its instruction from 8 AM until 5 PM. A WRH range is suggested to provide flexibility for the University to determine the most realistic rate based on its scheduling practices.

	WRHs *	Station Fill	ASF / Station **
Standard Classroom	26.0 – 31.5	67 %	22

* This is the average hours per week classrooms should be used.

** Includes classroom service (115)

Note: these factors are recommended for determining general purpose classroom needs that can be shared by multiple disciplines. Determining the needs for disciplines requiring dedicated classrooms, such as Nursing, will need to be estimated based on criteria specifically related to that discipline.

The space factor formula used is:

$$\text{Space factor} = \frac{\text{Station size}}{\text{Hrs. per week} \times \text{Occupancy Rate}}$$

The space factor is then multiplied by the Weekly Student Contact Hours (WSCH) to produce the ASF required for classrooms.

For example:

$$\frac{22}{26 \times .67} = 1.26 \text{ factor}$$

Therefore 89,000 WSCHs would require 112,140 ASF of classroom space (1.26 x 89,000).

This formula calculates the total classroom space requirements. While the average station size being used is 22 ASF, the University will require a wide variety and size of classrooms. Some rooms may be 15 ASF per station, others may be 30 ASF or higher per station. The average station size reflects current conditions, and recognizes recent trends in instruction based on more group discussion and to provide greater flexibility in room furnishings and layouts to accommodate a variety of learning methods. The recommended weekly hour usage rate represents current scheduling conditions as well.

Campus Wide Space Needs

The calculation of space needs for certain types of space considered to be campus wide resources that are generally used or supportive to the institution as a whole have been consolidated to determine an aggregate need for the total campus.

Athletic / Physical Education/Recreation

The campus wide space needs for Athletic/PE/Recreation space includes all non-exempt space classified under room types 520-Athletic/PE; 525-Athletic/PE Service and 670/675-Recreation. Athletic/PE Spectator Seating – Room Type 523 is classified as exempt space in the model. The method used for calculating Athletic / PE/ Recreation space provides a core minimum of 40,000 ASF plus 8 ASF / Student FTE students. For intercollegiate activity space, an additional 2 ASF / Student FTE is added to the above allocation. If provided, an allocation for a swimming pool of 9,000 ASF for a standard pool to 20,000 for an Olympic sized pool is recommended and is added to the total need. Seating in arenas and stadiums (room type 523) are excluded from this calculation.

General Use

The General Use category of space is normally divided into two groups: Assembly (610) and Exhibition (620) space and those room types that are considered as Student Service space (630, 650, 660, 670, & 680). A more detailed approach is recommended than most other methods used by other states and universities. This method provides a more realistic approach since it provides formulas and factors based on individual room types rather than consolidating all the General Use room types into one or two groups

Assembly

The Assembly space category consists of rooms designed and equipped for the assembly of many persons for such events as speeches, commencement activities, or large meetings. Not included in this grouping includes theaters, concert halls or other types of performance venues.

The space needs for Assembly space includes all non-exempt space classified under room types 610-Assembly and 615-Assembly Service. The calculation for Assembly space includes a core minimum of 5,600 ASF plus 4 ASF/Student FTE.

Exhibition

The space needs for Exhibition space includes all space classified under room types 620-Exhibition and 625-Exhibition Service. The calculation for Exhibition space is a core of 1,500 ASF plus .05 ASF / Student FTE.

Food Facilities

The space needs for food facilities includes all space classified under room types 630 – Food Facility and 635 – Food Facility Service. Excluded are rooms classified as office kitchens (room type – 315 Office Service) and areas kitchen and food preparation areas that serve sleeping areas within residential facilities (room type – 935 Sleep/Study Service). The calculation for Food Facilities is 30% of the FTE Students plus 15% of the FTE faculty and staff times a factor of 12 ASF.

For a campus with 7,777 FTE Students and 1,150 FTE Faculty/Staff a need of 30,066 ASF would be generated. $(7,777 \times 30\% + 1,150 \times 15\%) \times 12 = 30,066 \text{ ASF}$

Student Lounge

Student lounge space includes areas used for rest and relaxation used primarily by students. This category does not include lounge space located in residence halls or offices.

The space needs for Lounge space includes all non-exempt space classified under room types 650-Lounge and 655-Lounge Service. The calculation for Lounges is 2 ASF / Student FTE. Lounge space for faculty and staff is calculated under the Office category (room type -360). Note: student lounge space assigned to administrative support areas should be reviewed on an ad hoc basis and are not included in this formula-based assessment.

Meeting Rooms

Space used by the institution or public for a variety of non-class meetings or activities.

The space needs for Meeting Room space includes all non-exempt space classified under room types 680-Meeting Rooms and 685-Meeting Room Service. The calculation for Meeting Rooms is 1 ASF / FTE students.

Support Facilities

Support facilities provide centralized space for various auxiliary support systems and services of an institution and include centralized areas for computer based data processing and telecommunications, shop services, general storage and supply, vehicle storage, central services such as printing, mail, shipping and receiving, etc.

The campus wide space needs for Support space includes all non-exempt space classified under room types 710/715- Central Computer facilities, 720/725- Shop, 730- Central Storage, 731- Departmental Storage, 740/745- Vehicle Storage, 750- Central Service, and 760- Hazardous Waste Storage. The calculation for Support Facilities is a percentage allowance of 7.0 % of all other calculated space for room types – 100 thru 600; and 5% for room types – 800 thru 900.

Library

Library space includes study rooms, stacks, open-stack study rooms, and processing areas as well as service areas. Individual offices are calculated as office facilities. Reading/study space includes tables, carrels, or chairs where students and faculty can work. Service space includes binding, cataloging, re-shelving, reserves, and circulation space.

The calculation of Library space is addressed differently than the other campus-wide calculation categories. This space type is more specialized and a significant part of the basic data needed to conduct this calculation is solicited separately from the institution.

The space needs for Library space includes all non-exempt space classified under the 400 room types series for Library assigned to the institution's main library unit. Library space assigned to other departments is not typically calculated in the model and is assumed to be sufficient, or should be assessed independently on a case-by-case basis. The following factors and criteria are used in the calculation of main library space:

Stack: Library stack space needs are based on the reported collections that are converted to bound volume equivalents and then allocated space based on the following factors: 10 ASF / volume for first 150,000 volumes; .09 ASF / second 150,000 volumes; .08 ASF / next 300,000 volumes; .07 ASF / all volumes over 600,000. Compact shelving, if applicable, is .03 ASF / volume.

Reading/Study Rooms: Ten percent (12.5%) of FTE students and five percent (5%) of FTE faculty require seating at any one time. The station size varies depending on the type of station: casual seats (20 ASF), Computer station (30 SF), reserved (40 ASF), etc. For simplification, a composite student reading space module of 26.75 ASF and a faculty reading space module of 29.5 ASF have been used.

Café/Lounge Area: Two (2) ASF per user is applied to the total calculated number of library users determined for the reading space to allow for lounge facilities where food and drink such as cyber cafes are permitted.

Service: an allocation of 15 % of the calculated need for Reading/Study and Stack space is added to the total need. This space need accounts for the workstation space of staff and students working in the technical service processing space. A separate office calculation is not required.

Office space needs are calculated under Offices (300) and the office requirement is included in calculating the total library space requirements. Excludes staff and student working on the technical services processing areas.

Glossary of Terms

The terms and abbreviations used in this report are defined below:

ASF (Assignable Square Feet):

This is the area (square feet) assigned to, or available for assignments to an occupant or specific use. This excludes building service areas such as public restrooms and custodial closets, circulation, mechanical, and structural areas.

CIP Code:

The Classification of Instructional Programs (CIP) code is a taxonomic scheme that supports the accurate tracking, assessment, and reporting of fields of study and program completions activity. CIP was originally developed by the U.S. Department of Education's National Center for Education Statistics (NCES) in 1980. The 2010 edition (CIP-2000) is the fourth revision of the taxonomy.

Student Credit Hours:

This is a unit of measure representing the equivalent of an hour (normally 50 minutes) of instruction per week over the entire term or semester.

FTE (Full Time Equivalent) Student:

For FTE students this is the total credit hours generated within any semester, quarter, or inter-session, divided by 15 for undergraduates and 12 for graduate students. Credit hours generated are calculated based on the academic program in which the student is enrolled and is taken within the official enrollment reporting date for a defined period (normally this is the 14th day of the Fall semester or quarter).

Module Size (ASF / Station):

The average classroom module is 22 however this will vary by type of room. Seminar rooms are normally 25 to 30 ASF per station while lecture halls have between 9 and 13 ASF per station. The teaching lab and research lab modules will vary by discipline.

Station Use (Occupancy):

This is the percent of stations (seats) within a room (classroom or lab) that are in use (occupied) during a scheduled class.

WRHs (Weekly Room Hours):

This is the number of hours a week that a room (classroom or lab) is in use. For example, the WRH percent for classrooms is the total room hours of instruction divided by the total number of classrooms.

WSCH (Weekly Student Contact Hours):

This is the total amount of time (hours) spent by students in scheduled classes (lecture and/or lab time) during a week. The WSCH is typically larger than the total credit hours since lab time (hours) often exceeds the credit hours for most courses (e.g. Art, Biology, Chemistry).

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Summary of Recommended Space Planning Factors

<u>Space Needs Type</u>	<u>Formula</u>	<u>Factors</u>	<u>Comments</u>
Offices	Office Module x FTE Personnel	Module size ranges between 40 and 350 ASF depending on position. Senior administrative positions provided larger modules.	
Office Service	Allocation Factor x Aggregate Office Need	10 - 20 % of aggregate need depending on type of office operation	
Office Service- Waiting Room	Waiting Room module per unit	120 ASF for senior administrative units .03/FTE Student plus 200 ASF minimum for student services units	For prescribed units only
Office Service - Departmental Storage	Storage Module x FTE Staff	Storage Module = 15 ASF	For prescribed units only
Conference Rooms	Conference Room Module x FTE Faculty & Professional Staff	Module = 18 ASF	Excludes clerical, grad student & student worker positions
Office Lounge	Office Lounge Module x FTE Staff	Module = 5 ASF	Excludes grad students and student workers
Teaching Laboratories	Space Factor x Weekly Student Contact Hours (WSCH) (Space Factor = Station Module/ WRH x Station Occupancy)	Weekly Room Hour (WRH) Use - Ranges from 15 - 22 WRH Station Occupancy - Ranges from 80 - 90% Station Module Size - Ranges from 35 - 120 ASF	WSCH taught in teaching labs
Computer Laboratories	Space Factor x Weekly Student Contact Hours (WSCH) (Space Factor = Station Module/ WRH x Station Occupancy)	Weekly Room Hour (WRH) Use - Ranges from 22 - 30 WRH Station Occupancy - 80% Station Module Size - 35 ASF	WSCH conversion varies by discipline
Research Laboratories	Research Module x FTE Lab-Based Researchers	Module size varies by disciplines	100% of faculty, .grads and post docs assumed engaged in research. UG research calculated for appropriate depts. using 1/3 module.
Special Use Laboratories	20% of Research Module x FTE Lab-Based Researchers	Module size varies by disciplines	Lab-Based Researchers determined through periodic department survey

Classrooms (Room Types 111/112/140)	Space Factor x Weekly Student Contact Hours (WSCH) (Space Factor = Station Module/ WRH x Station Occupancy	Weekly Room Hour (WRH) Use – 26 – 31.5 Station Occupancy - 65% Station Module Size - 20 ASF	WSCH Calculated from Credit Hours or Actual WSCH
Athletic/PE/Recreation (Room Types 520/670/675)	Minimum Core + (Module x FTE Students)	Minimum Core = 40,000 ASF Module = 8 ASF	Excludes athletic seating Pool range – 9,000 to 20,000 ASF
Assembly (Room Types 610/615)	Minimum Core + (Module x FTE Students)	Minimum Core = 5,600 ASF Module = 4 ASF	
Exhibition (Room Types 620/625)	Minimum Core + (Module x FTE Students)	Minimum Core =1,500 ASF Module = .05 ASF	
Student Lounge (Room Type 650/655)	Module x FTE Students	Module = 2 ASF	Excludes residential and office lounges
Meeting Rooms (Room Types 680/685)	Module x FTE Students	Module = 1 ASF	
Support Facilities (Room Types 700)	Minimum Core + (Allocation Factor x Aggregate Need)	Allocation Factor = 7.0% of calculated needs room types 100 to 600 Allocation Factor = 5.0% of calculated needs room types 800 to 900	
Library (Room Types 400)	<i>Stack Space:</i> Module x Volume Equivalent <i>Reading/Study:</i> (Student Module x (Allocation Factor x FTE Students) (Faculty Module x (Allocation Factor x FTE Faculty) <i>Lounge:</i> Module x Calculated Library Users <i>Service:</i> Allocation Factor x Aggregate Library Need	.10 ASF per Volume first -150,000 Volumes .09 ASF per Volume - second 150,000 Volumes .08 ASF per Volume - Next 300,000 Volumes .07 per Volume - Over 600,000 Volumes Student Allocation Factor = 12.5% Faculty Allocation Factor = 5% Student Module = 26.75 ASF Faculty Module = 29.5 ASF Module = 2 ASF Library Users = (Allocation Factor x FTE Students) + (Allocation Factor x FTE Faculty) Allocation Factor = 15%	Calculations for main library only. Collections data acquired through Collections converted to equivalent volumes Allocation factor is assumed use at any one time one time Modules are composite of Four different seating types Includes technical services staff and students workspace. Office needs for other library staff calculated per office guidelines

