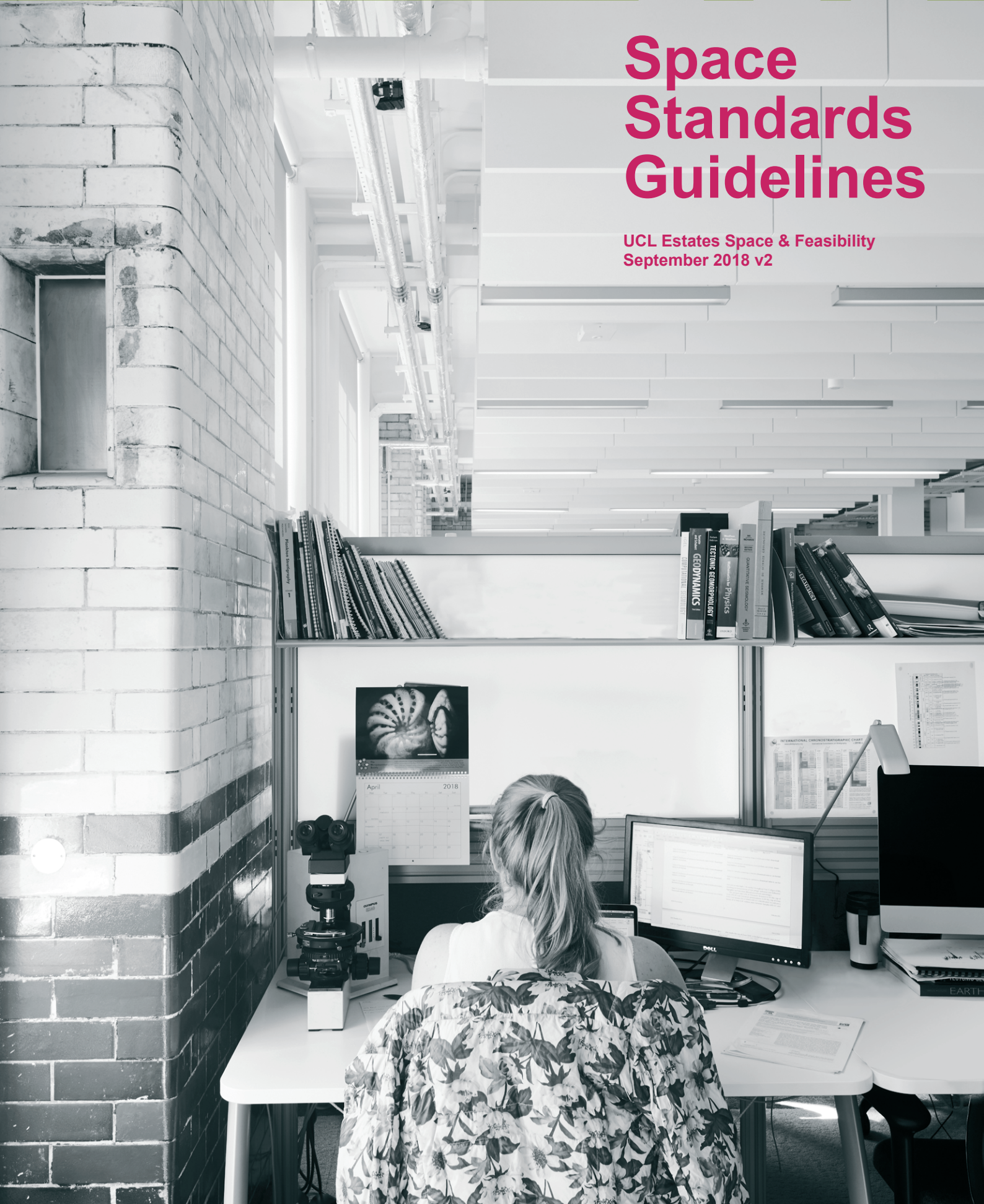




UCL

Space Standards Guidelines

UCL Estates Space & Feasibility
September 2018 v2



Introduction

The UCL Estate is an important and expensive resource and, in terms of costs to provide and maintain that space, is second only to salary costs. The success and growth of the university, the current Capital Programme and necessary decants and moves, as well as market factors and HS2 means UCL have a legacy of outstanding demand to deal with as well as planning for the future in a cost efficient way.

Improved space efficiency is also vital in achieving the University's carbon reduction targets; reducing the size of the Estate (or growth of the Estate) will help to cut overall emissions and more open plan working will result in more effective use of resources and easier access to shared printers and recycling facilities. Shared open plan offices and more efficient use of space will also mean a reduction in heating and lighting needs, helping to offset future increases in energy costs. The current Capital Programme offers a unique opportunity to meet these challenges and deliver an efficient workplace.

A Space Standards Policy is commonly used by similar institutions to define the framework by which all space should be allocated which will improve space efficiency and help to deliver the Estate Strategy and other Master Development Plans.

UCL has an historic Estate with many new buildings also coming on line, so space standards have to deal with existing buildings as well as being able to set templates for new buildings. The guidance set out here is intended for new buildings such as UCL East but should be seen as applicable for the refurbishment of buildings in the core campus going forward.

When looking to design new, or allocate existing space the following standards should be used as a guide to determine the extent of both cellular and open plan spaces. Particular attention should be paid to these where there is the option to create the spaces as new (i.e. construct spaces, rather than allocate an existing space).

The guide sets out the following:

- **General Principles**
- **Staff Allocations**
- **Space Standards**
- **Configuration Guidelines**



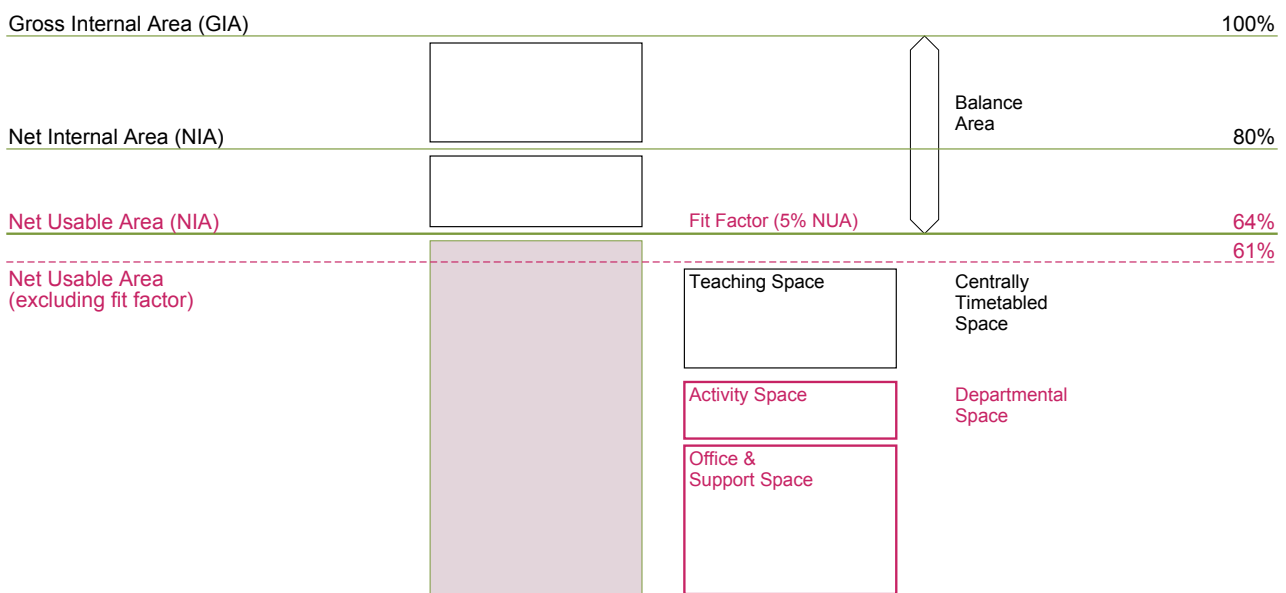
General Principles

Project Work Stages

- The UCL 'Space and Feasibility' team should be heavily engaged at stages 0-1 in the formulation of the brief and design standard to be included for the Business Case.
- At the beginning of a project, it is often necessary to derive an overall indicative GIA for a project as indicated in the diagram below. The area for office and support space as well as activity space such as laboratories will form part of this. This overall area will be optimised as the project progresses becoming more efficient.
- When the brief is being developed or when existing buildings are being converted (i.e. where floor plates are less efficient) it may be prudent to use the upper figure in the space allowances. However, as the brief is validated and design developed, the adopted space allowances should be as close as possible to the lower figures so that the outcome is as efficient as possible.
- Improvements in efficiency and changes in metrics can be expected as the detail of the project develops. The lower figure of the permitted range of areas in the table should be achieved by the RIBA Stage 2. The standards should be viewed as a target to be improved upon where possible.
- The developing design is to be compared to the approved Business Case standard at RIBA stage 2,3 and 4 reviews with UCL estates development.

Overall Guidelines

- Collaborative, open and shared areas shall be encouraged where possible with focused working spaces. Other specifics can also be outlined as varying space types from touch downs, quiet areas, noisy areas, public access and closed areas.
- Only one desk or work area shall be allocated per person. If staff are required to work in more than one area or department then hot desk facilities shall be arranged locally. Space utilisation will need to be monitored to ensure effective use is maintained
- Office space allocation should be viewed as a maximum rather than an entitlement.
- Multi occupancy offices and more open working can expect to increase with new projects and refurbishments
- Post Graduate Taught Students shall use central or departmental learning/study areas and will not normally be allocated dedicated workstations or drop in facilities.
- Circulation and non-usable areas shall be reduced wherever possible.
- Where practicable Schools and Departments shall share space where common functions exist, i.e. lab space, common rooms etc. to reduce duplication of activity.



- Store rooms or ancillary functions shall be located in windowless areas and not within spaces which could be used as office or teaching space. Archives or storage not accessed daily shall be ideally located off-site or in an appropriate space on the lower ground floor or basement or equivalent area.
- Departments will not be permitted to retain space that remains vacant or that is being ineffectively used if there is another pertinent need for that space.
- Where an amount of space has been allocated for departmental use not less than 10% of that space should be allocated for student use



Staff Allocations

Part Time and Visiting Staff

Hours of work shall be taken into account when allocating space and the following shall apply to both academic and non-academic staff.

- Staff who job-share on a non-overlapping basis shall share one workstation.
- Part time staff of between 0.6 and 1.0 FTE status shall be allocated an individual workstation/office as per the areas described in Figure 1 (page 10).
- Part time PGR Students shall hot desk within a dedicated desk sharing area, ratios of students to desks will be dependent upon expected hours of attendance.
- Staff of less than 0.6 FTE shall either;
 - a) share a single workstation with other part time staff where hours of work do not overlap, or
 - b) be allocated an individual desk but in a space that is smaller than that which would be allocated for full time staff.

This space shall be proportional to the number of hours worked. For example two 0.5 FTE senior lecturers would share an office that contains a desk each.

- Full time visiting staff shall be allocated an individual workstation in a multiple occupancy office or within open plan. The individual space allocated shall be up to 6 m² per person and shall be within the department's current space. Visiting staff who are not expected to be in the office full time shall use agile working facilities or be allocated space proportional to hours worked as per part time staff guidance.



Space Standards

Teaching Space

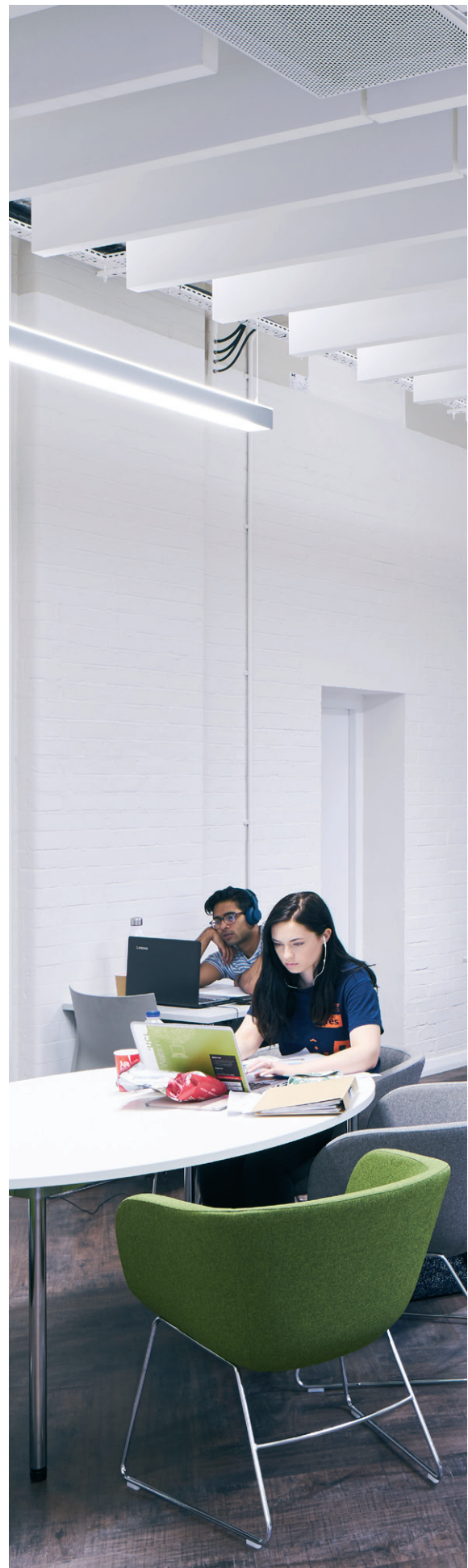
UCL will actively seek to bring all generic spaces within all buildings (seminar rooms, lecture theatres, classrooms and training rooms) into the central room booking pool to ensure that the space is available to all. Only small specialist areas shall remain in departmental control.

Meeting Space

Meeting spaces should be provided on the basis of Agile Working, being the preferred working method. This allows for at least 1 alternative meeting or social space per workstation. In respect of meeting rooms the availability of larger central rooms should be considered and the requirement for smaller rooms should be prioritised.

Shared Space

Common Room space shall be allocated as a % of the floor on a per floor basis. Every person should have reasonable access to a kitchen and common room facility, either solely for their department or as a shared facility dependant on staff numbers and what is reasonably practicable and an efficient use of available space.



Laboratories

Laboratories make up a considerable area within the UCL Estate and related facilities. Laboratory requirements are difficult to set a specific standard for as their needs vary markedly between teaching and research and also between disciplines. Examples can include wet and dry labs for a range of activities including chemistry, biochemistry, chemical engineering, micro-biology through to electrical, geology and environmental sciences, as well as more specialised facilities.

Given the high density of teaching and research facilities at UCL and the variation in these requirements in terms of equipment, layout, activity, plant etc only general space norms are given for guidance. A brief for each project is to be formed on a case by case basis, which will be developed into an accommodation schedule for review by UCL estates development. Information will be required to be summarised on following space categories given: Laboratory space, Office/write up space, Cellular Office, Teaching Space and Non-net space.

The brief for these areas should be broken into sub groups with space types identified and the proportion of net and gross area of footplate clearly calculated and benchmarked to allow an easy assessment and comparison to be made. An example of such is given opposite.

The intention is for areas and adjacencies to be established and then developed into designs that ensure efficient floorplates are produced that maximise net:gross areas and also incorporate write up, collaborative and social space in close proximity to promote a better work environment.

The following table lists the generic guide for space allowance for these areas.

Laboratory Space	6 sq m pp
Office/write up shared	4 sq m pp
Office cellular	9 sq m pp

Project Example

Construction Cost: £356m

Type: New Build

Sector: Medical Research

Total Occupancy: 659

Project Overview

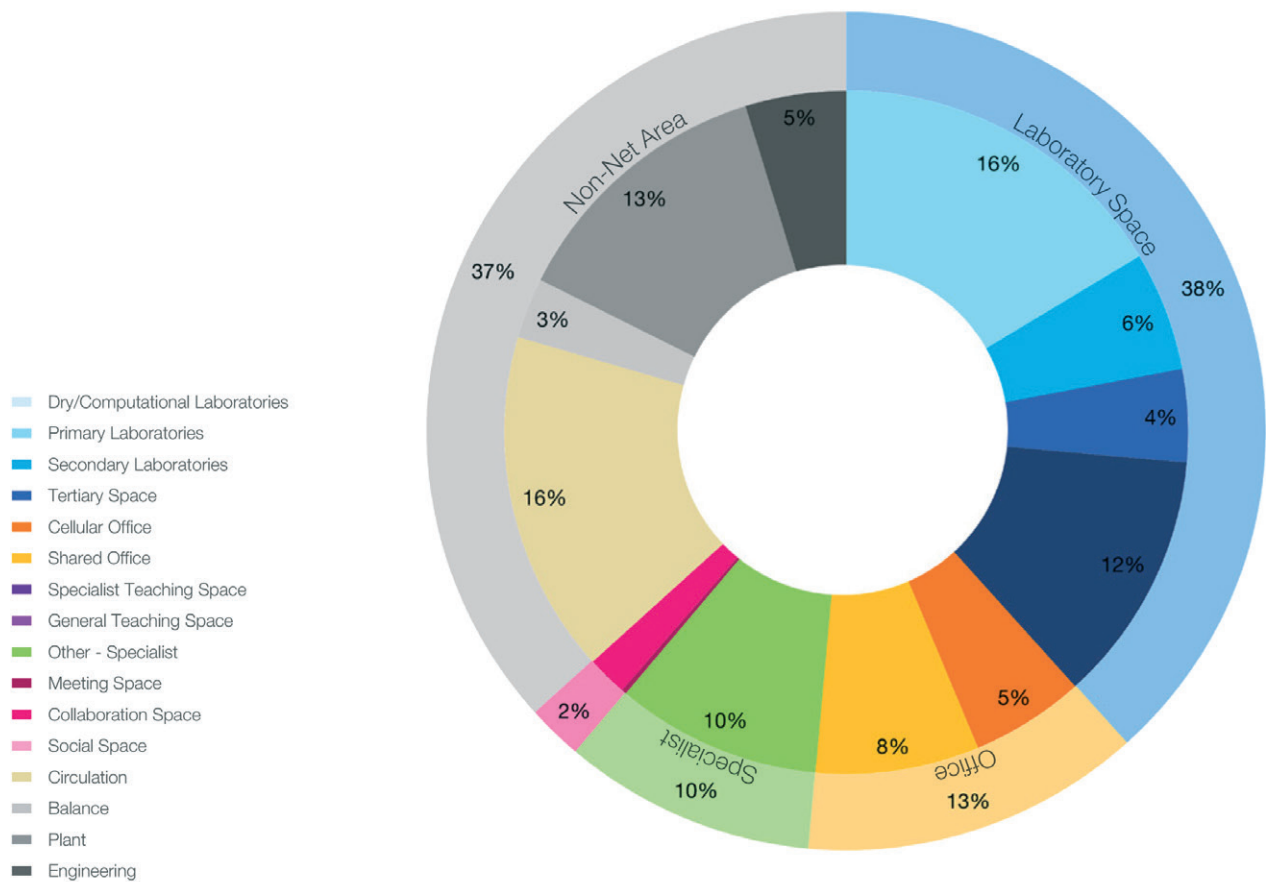
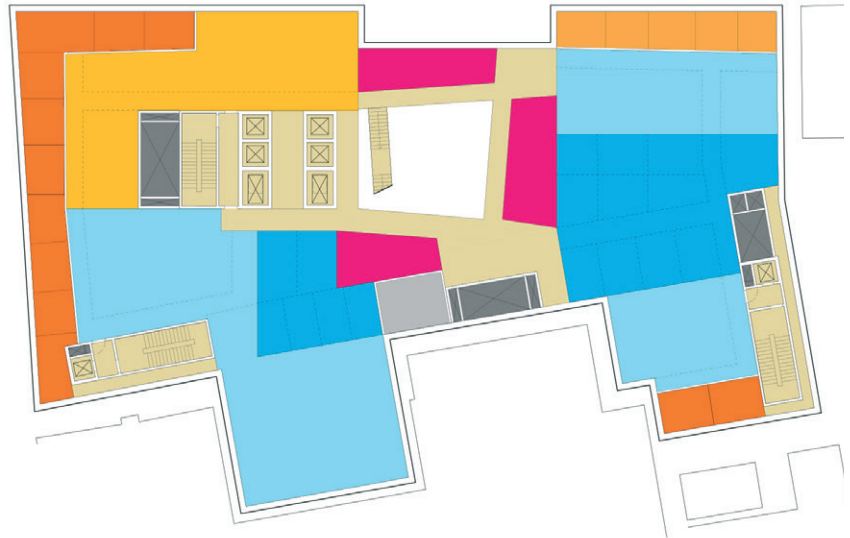
The building provides typical wet lab and office facilities alongside specialist clinical spaces, and testing labs. It has 4 basement levels and 13 floors above ground, with 2 roof top levels for plant provision.

Space Factors

Primary Laboratory: 6.7m² pp

Shared Office: 4.7m² pp

Cellular Office: 11m² pp





Laboratory Space

These are the primary and secondary laboratory space provisions which can vary from wet to dry labs with secondary and shared support provision. This can include bench space, computational space. An additional benchmark value of length of bench space may be worth including

Office and write up space

Office facilities can range from administration to write up space and includes various types of working space. These should follow the standards given in the office section of the guidelines and encourage the mixture of available facilities.

Whilst cellular offices may be needed for clinical reasons or privacy these are generally to be kept to a minimum. Other concepts such as agile VIP suites should be explored as ways of providing the special areas required by a world class institution whilst still meeting the efficiencies needed.

Teaching Laboratories

Due to the varied and sometimes specialist nature of lab requirements in terms of equipment, layout, activity, delivery and discipline, setting fixed norms may not be appropriate. These labs will be assessed or planned on a case by case basis using one or a combination of methods in order to establish space needs. Those methods shall be:

- Observed utilisation of existing spaces (occupancy rate and frequency rates) if replacing or extending the space.
- HEFCE SMG 'Space Assessment Model', where needs are calculated from student FTE numbers, hours of instruction and target utilisation levels.
- Scaled drawing mapping out the area, generally used where areas will contain a high proportion of equipment, sizable apparatus or be highly specialist.
- Broad norms by subject calculated by external consultants who have worked closely with the University or within the sector using their experience, benchmarks, and with reference to generic guides such as the latest edition of the AJ Metric Handbook (currently 6th Edition 2018)

Research Laboratories

New labs and in future, labs undergoing major refurbishment, shall normally be allocated on a shared basis by subject, function or where synergies exist. These larger shared labs will accommodate several research groups and can better accommodate the ebb and flow between those groups over time.

Research spaces are often highly specialised and will be affected by some of the factors listed in the section above. Again these will be dealt with on a case by case basis as per the methods described in the previous section but with the addition of:

- A brief demographic will be developed with the Users confirming the working numbers and access needs taking into account the service model to be employed
- Specialised equipment will be listed and confirmed, with spatial and service requirements. The remaining areas should conform to the guidelines where possible
- The Wellcome Trust's 'Guidance on Layout and Space Standards for Biomedical Laboratory Buildings' (1998) which specifies ratios and ranges of space for different activities in and associated with a research laboratory.

Office Space Guidelines

Figure 1 contains a list of proposed space guidelines for UCL to adopt as its Space Standard for projects going forward. This is an initial guideline for users and designers and focuses on workplace design from which an accommodation schedule is developed for an entire facility, with teaching spaces, meeting spaces and shared space.

The range of areas tabled are to permit allowances to be taken from an early stage allowance and then be improved upon through efficiencies achieved through the design process. The UCL reviews will be looking to see this improvement

OFFICE SPACE GUIDELINE	AREA PER WORKSPACE (m ²)
Single occupancy cellular office	9 - 11
Shared cellular office	4.5 - 6
Open plan office	4.5 - 6
Post grad research space	4 - 4.5

Figure 2 shows benchmarks for other similar institutions for comparison.

OFFICE SPACE GUIDELINE	AREA PER WORKSPACE (m ²)							
	HSE	UCL	Imperial College	Aston	Bristol	LSE	Warwick	Cambridge
Senior single occupancy cellular office			N/A	15	12 - 15	13.5 - 15	< 12	
Single occupancy cellular office	10 - 11	9 - 11	10	9	10	9 - 12	< 6	10 - 12
Shared cellular office	4.5 - 7.5	4.5 - 6	5 - 7.5	6		4.5 - 6		4.5 - 7.5
Open plan office	4.5 - 7.5	4.5 - 6	7.5	6	6.5	4.5 - 6		4.5 - 7.5
Post grad research space	4 - 4.5	4 - 4.5	4	4			4	4 - 4.5

Meeting Space Guidelines

Meeting rooms of different capacities will be allocated in support of academic areas in proportion to the numbers of people on the floor/in the department as indicated in figure 3.

MEETING SPACES	AREA PER PERSON (m ²)	SPACE PER PERSON (RATIO)
2 - 4 person	1.5 - 2	1:50
4 - 8 person	1.5 - 2	1:75
8 - 12 person	1.5 - 2	1:100
12 - 20 person	1.5 - 2	1:100
20 person +	1.5 - 2	1:200



Configuration Guidelines

Layout and Configuration

It is important to note that every department may work in different ways and may have different requirements to other areas. There is not one layout that will function well for all teams, however the general principles outlined below shall be incorporated into each area even though overall layouts may differ. Based on the space standards laid out in figure 1 and figure 3, teams will be given a quota of space based on their headcount and specific requirements. If departments choose to allocate this space differently from the guidance it is at their discretion and additional space will not be provided.

In the interests of reducing barriers, reducing building change/cost over time and increasing communication and flexibility it should be considered whether it is appropriate for open plans teams to share the same space rather than be physically segregated by constructing walls. Unless otherwise agreed, it shall be standard practice to share space where the building layout allows, particularly for administrative staff, researchers, technical staff, sessionals and post graduate research students. Admin or support departments shall also share space with other such departments. In order to allow future flexibility furniture, rather than a physical building structure, may be used to create a distinction if necessary.

Desks within open plan areas shall generally be arranged in clusters (usually 4 to 6 desks) with staff facing each other rather than in a 'U' shape configuration. Research suggests that within a cluster arrangement occupants feel more comfortable and part of a team.

It is desirable for staff to have access to a window although unfortunately this will not be physically possible. In order to design a layout that provides sufficient and adequate accommodation for the particular staff demographic within a given group, it will be necessary to create some individual offices and open plan spaces within inner building areas.

Where staff sit in open plan space small work rooms may be allocated at the prescribed ratio. These shall be for staff to use to work in private when required, the rooms will be controlled locally and a booking system may be operated. The rooms may also double for small meetings and shall be up to 10 m². Modular furniture may also be used provide to this function.



HSE Guidance

The Workplace (Health, Safety and Welfare) Regulations 1992 outline a wide range of health, safety and welfare issues which apply to most workplaces. The Health and Safety Executive issue guidance for establishing good practice regarding the Workplace Regulations. The following is an excerpt from that guide;

“Workrooms should have enough free space to allow people to move about with ease. The volume of the room when empty, divided by the number of people normally working in it, should be at least 11 cubic metres. All or part of a room over 3.0 m high should be counted as 3.0 m high. 11 cubic metres per person is a minimum and may be insufficient depending on the layout, contents and the nature of the work.”

The above extract outlines that space per person in an open plan or shared environment is calculated by dividing the area of the entire room by the number of staff using that room, UCL's space allowances have subsequently been based upon this methodology.



Furniture

In order to provide flexibility in movement between spaces and also a consistent working environment, it is advised that the recommended furniture is procured for any new spaces.

Furniture type and finish to be agreed following procurement framework review.

Single occupancy cellular office

- 1600mm x 800mm desk
- 1x Pedestal (desk height or under desk as determined by user, but to match other furniture)
- Task Chair

Open plan office

- Maximum 1400mm x 800mm desk (handed as appropriate).
- 1x Under desk pedestal or locker if agile
- Task Chair

Post grad research space

- 1000mmx 800mm desk or fixed benching at 1000mm width per person.
- Storage if required; mobile personal storage units or small lockers.
- Task Chair

Storage

The storage of large amounts of material on site will be discouraged. Each individual will be allocated a maximum of one linear meter of storage alongside their personal pedestal or locker (Agile Working). Team storage will be assessed on a case by case basis and will be kept to a minimum. Reduction in storage and increased electronic document management will be encouraged at every opportunity.

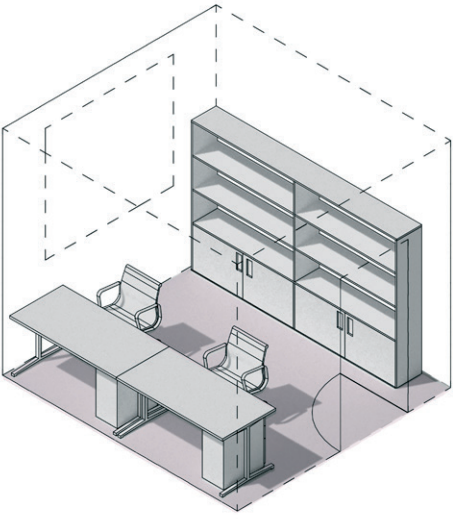
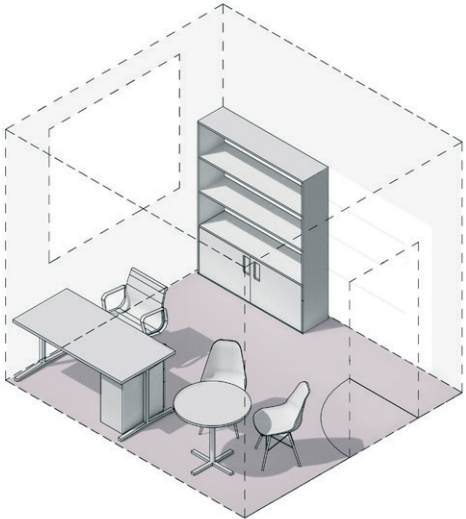
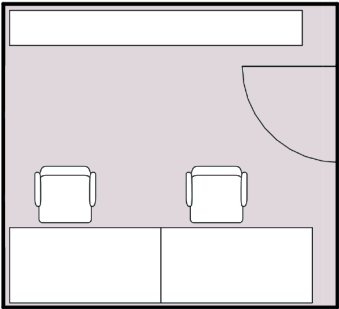
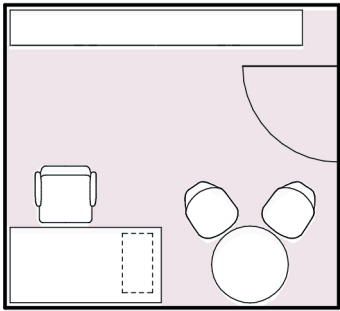
Fit Factors

In the case of existing buildings, particularly period properties, a fit factor needs to be included to accommodate inefficiencies in space planning when calculating potential occupancy based on Net Internal Area (area). This should not exceed 5% unless there are special circumstances which will need to be set out in detail in the stage gate reports for estates development.

Example Space Standards

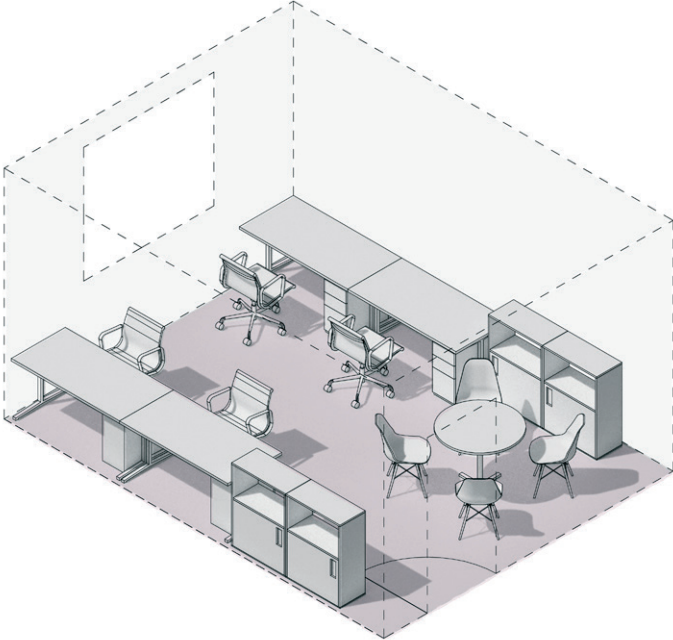
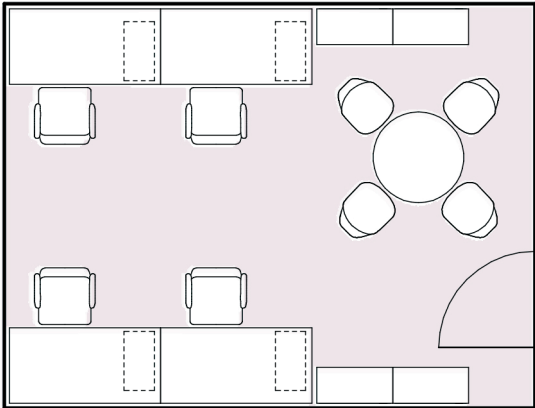
Single or Double Occupancy Cellular Office
9-11m² per workspace

1-2 person occupancy



Shared Cellular Office
4.5-6m² per workspace

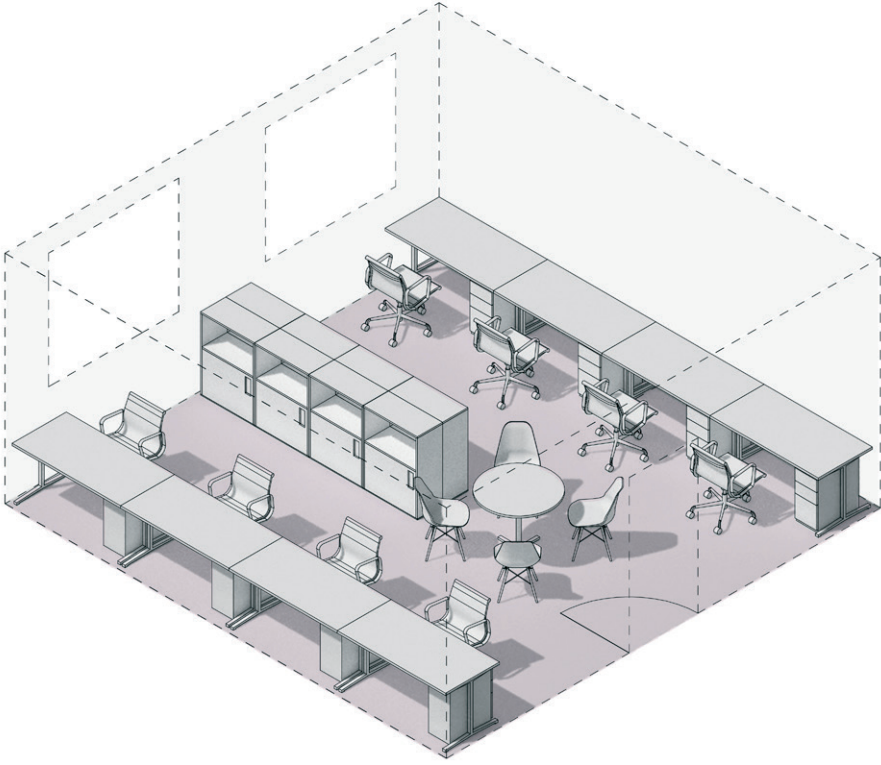
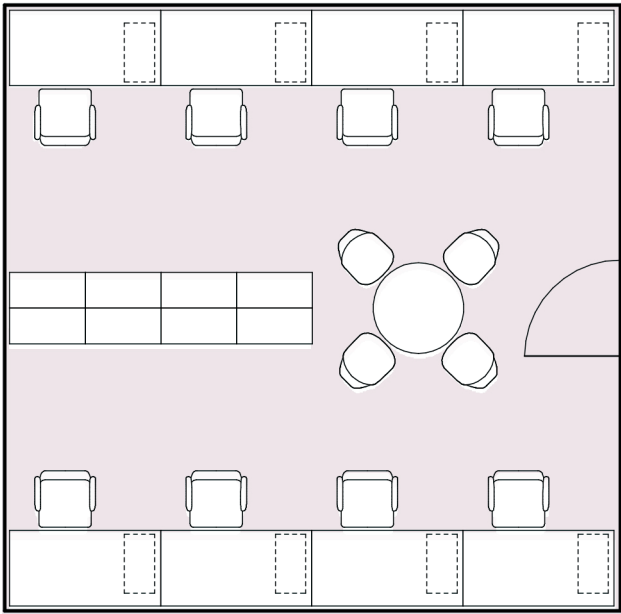
4 person occupancy



Example Space Standards

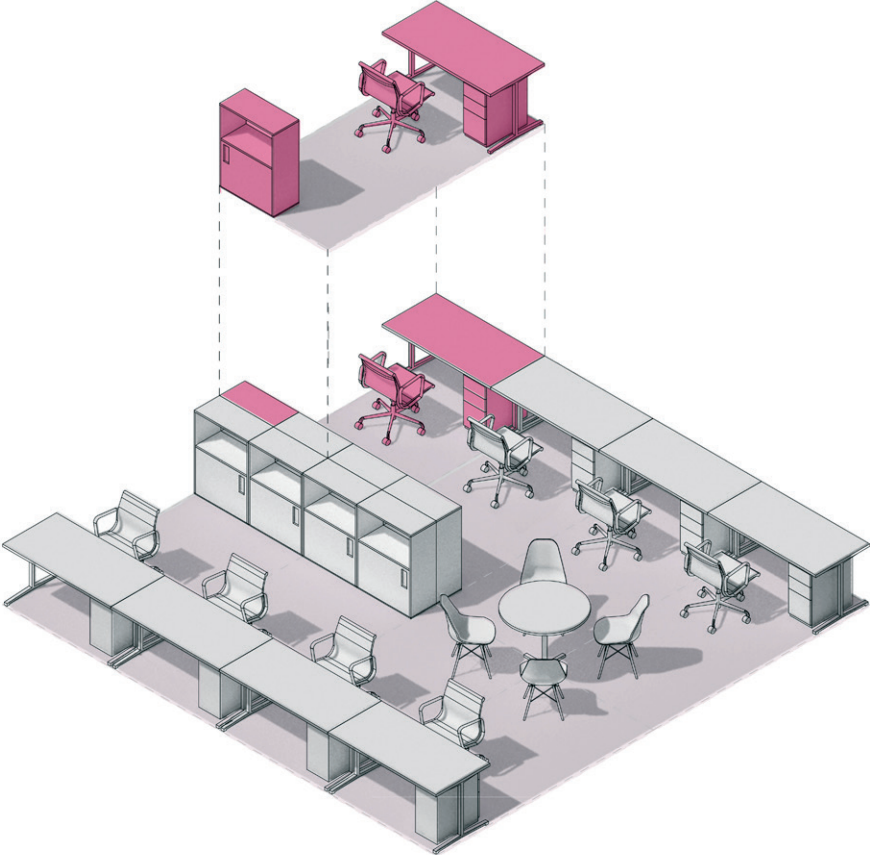
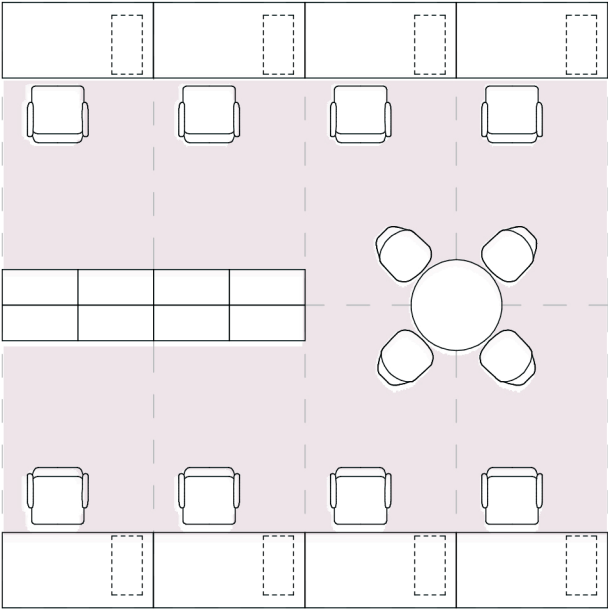
Shared Cellular Office
4.5-6m² per workspace

8 person occupancy



Open Plan Office
4.5-6m² per workspace

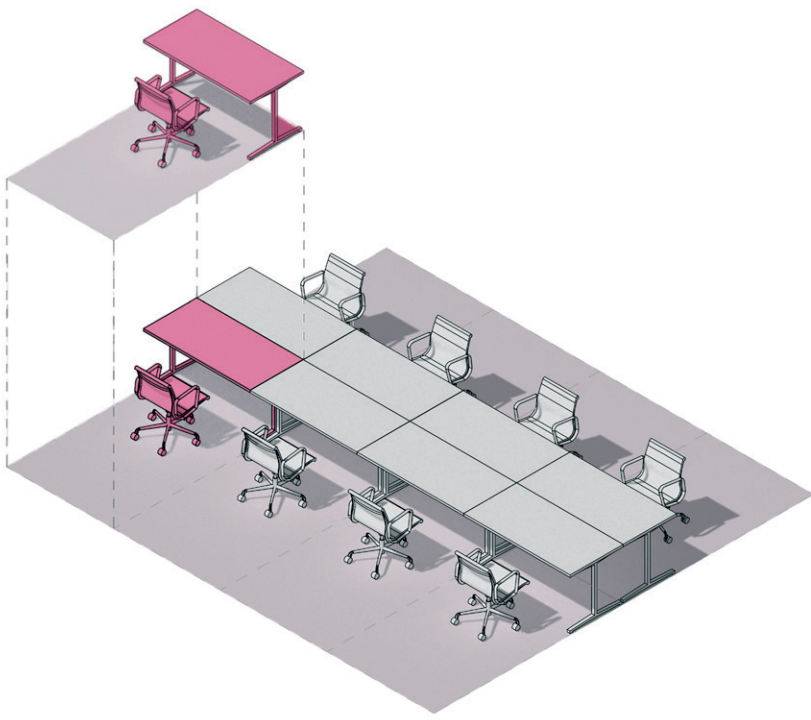
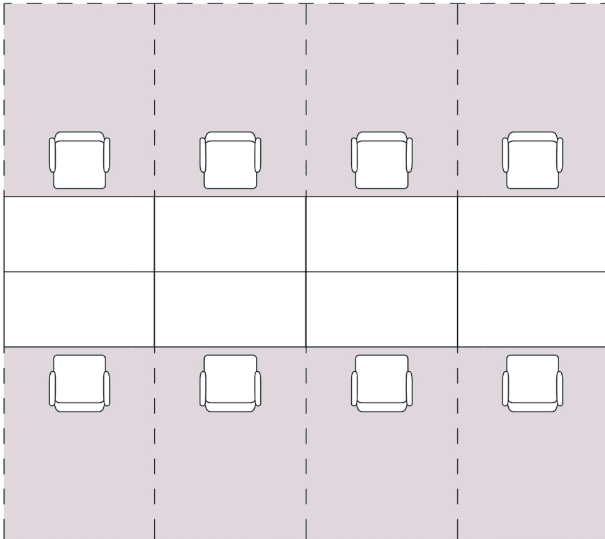
8 person occupancy



Example Space Standards

Post Graduate Research Space
4m² per workspace

8 person occupancy





Plan

Example Arrangement of Space Standards

Key

- Workspace
- Support space

Single occupancy cellular office
Shared cellular office
Open plan office

2 workspaces
8 workspaces
90 workspaces

Formal meeting space
Informal meeting space

20 seats
28 seats

Kitchen/social space
MFD area

x 1
x 2

