3.0 PROGRAM

3.1 Program Overview

A total of 89,686 asf has been identified for Engineering Building Unit 2 (EBU2). The projected total gross building area is 152,010 GSF at a 59% efficiency. General categories for the occupants included the following:

Department of Computer Science and Engineering Subtotal	**33,700 asf**
Department of Electrical Engineering Subtotal	**20,400 asf**
BCOE Instructional Space Subtotal	**16,800 asf**
BCOE Assigned Space Subtotal	**13,430 asf**
General Assignment Instructional Space Subtotal	**5,356 asf**

This section of the DPP provides a summary of the program elements for the proposed EBU2. The following summary includes a list of space types and associated net assignable area. The Room Data Sheets in the Appendix lists the primary room criteria.

3.2 Master Space List

This section of the DPP provides a summary of the program elements for the proposed EBU2. The summary includes a listing of space types, and associated net assignable area grouped into the following three categories for both the Department of Computer Science and Engineering and the Department of Electrical Engineering:

1. Offices – This category includes offices for faculty, post doctorate scholars, teaching assistants, staff, and management services officers.

2. Support Spaces —All conference and seminar spaces, open workrooms, copy/supply/mail, departmental storage, and non-lab assignable areas are included in this category.

3. Instructional & Research Spaces – This category includes all spaces whose primary function is to support basic and/or applied research and teaching activities; i.e. research labs, teaching labs, and lab support spaces. Also included are system administration and server areas.

Scholarly Activities support the research functions. The Research Centers in EBU2 include: CRIS (Center for Research in Intelligent Systems), CCSE (Center for Computational Science and Engineering), and CCN (Center for Communications Network). In addition, the program includes scholarly activity space and general assignment instructional space.

Space Type Distribution

The program developed for EBU2 totals 89,686 net assignable square feet (asf) of space. With a ratio of net-to-gross area of approximately 59%, the total area of the building is approximately 152,010 gross square feet (gsf). The following table provides a percentage breakdown of the total net assignable area by space type category.

Department of Computer Science and Engineering

Space Type Category	Total Net Area (asf)	Percent of Total
Offices	9,360	10.5%
Support Spaces	980	1.1%
Research Space	23,360	26.0%
Sub-Total	**33,700**	**37.6 %**

Department of Electrical Engineering

Space Type Category	Total Net Area (asf)	Percent of Total
Offices	4,880	5.5%
Support Spaces	700	0.8%
Research Spaces	14,820	16.5%
Sub-Total	**20,400**	**22.8 %**

BCOE Instructional Space

Space Type Category	Total Net Area (asf)	Percent of Total
Teaching Labs	16,800	18.8%
Sub-Total	**16,800**	**18.8 %**

Centers

Space Type Category	Total Net Area (asf)	Percent of Total
CRIS	2,400	2.7%
CCSE	1,200	1.4%
CCN	1,200	1.4%
Sub-Total	**4,800**	**5.5 %**

Scholarly Activities

Space Type Category	Total Net Area (asf)	Percent of Total
Conference Room/Seminar	2,400	2.7%
Design Rooms	800	0.9%
Conference Room Support	600	0.7%
Resource Area/ Reading Rooms	1,200	1.4%
Student Study/ Interaction Areas	1,600	1.8%
Faculty Lounge	500	0%
Sub-Total	**7,100**	**7.5 %**

Student Support Spaces

Space Type Category	Total Net Area (asf)	Percent of Total
Clubs Office Space	900	1.0%
Honors Office Space	630	0.7%
Sub-Total	**1,530**	**1.7 %**

General Assignment Instructional Space

Space Type Category	Total Net Area (asf)	Percent of Total
Lecture Hall	1,750	2.0%
Lg. General Instructional Space	2,462	2.8%
Sm. General Instructional Space	1,144	1.3%
Sub-Total	**5,356**	**6.1 %**

Total	**89,686 asf**	**100%**

3.3 Program Summary

SPACE TYPE	QTY	ASF	TOTAL	Adjacencies and Comments
Department of Computer Science and Engineering				
Offices				
Chair's Office	1	280	280	
Faculty Offices	35	140	4,900	Dean in Bourns Hall
Post Doc. Scholars (PGR)	14	60	840	Clustered into larger shared space 6-8
TA Offices	62	40	2,480	Clustered into larger shared space 6-8
Staff	6	120	720	
MSO Mngmt Serv. Officer	1	140	140	
Support Spaces				
Conference Rooms	2	280	560	Seat 18-24
Copy, supply, mail	1	140	140	
Workroom, coffee	1	140	140	
Department storage	1	140	140	
Instructional and Research Spaces				
Research Labs	18	1200	21,600	2 faculty/lab w/10 GSR work spaces
Lab Support Space				
Systems Admin	1	800	800	
Server Area	1	400	400	
Research Support Spaces	4	140	560	
Subtotal Computer Science and Engineering			**33,700**	
Department of Electrical Engineering				
Offices				
Chair's Office	1	280	280	
Faculty Offices	20	140	2,800	+1 in CRIS
Post Doc. Scholars (PGR)	9	60	540	3 share one office
TA Offices	19	40	760	Clustered into larger shared space 6-8
Staff	3	120	360	
MSO Mngmt Serv. Officer	1	140	140	
Support Spaces				
Conference Rooms	1	280	280	Seat 18-24
Copy, supply, mail	1	140	140	
Workroom, coffee	1	140	140	
Department storage	1	140	140	
Instructional and Research Spaces				
Research Labs	11	1200	13,200	2 faculty/lab w/ 10 GSR work spaces
Lab Support Space				
Systems Admin	1	800	800	
Server Area	1	400	400	
Research Support Spaces	3	140	420	
Subtotal Electrical Engineering			**20,400**	
BCOE Instructional Space				
Teaching Labs	14	1200	16,800	Undergraduate focus, One Lab may be EE Shop
Subtotal BCOE Instructional Space			**16,800**	

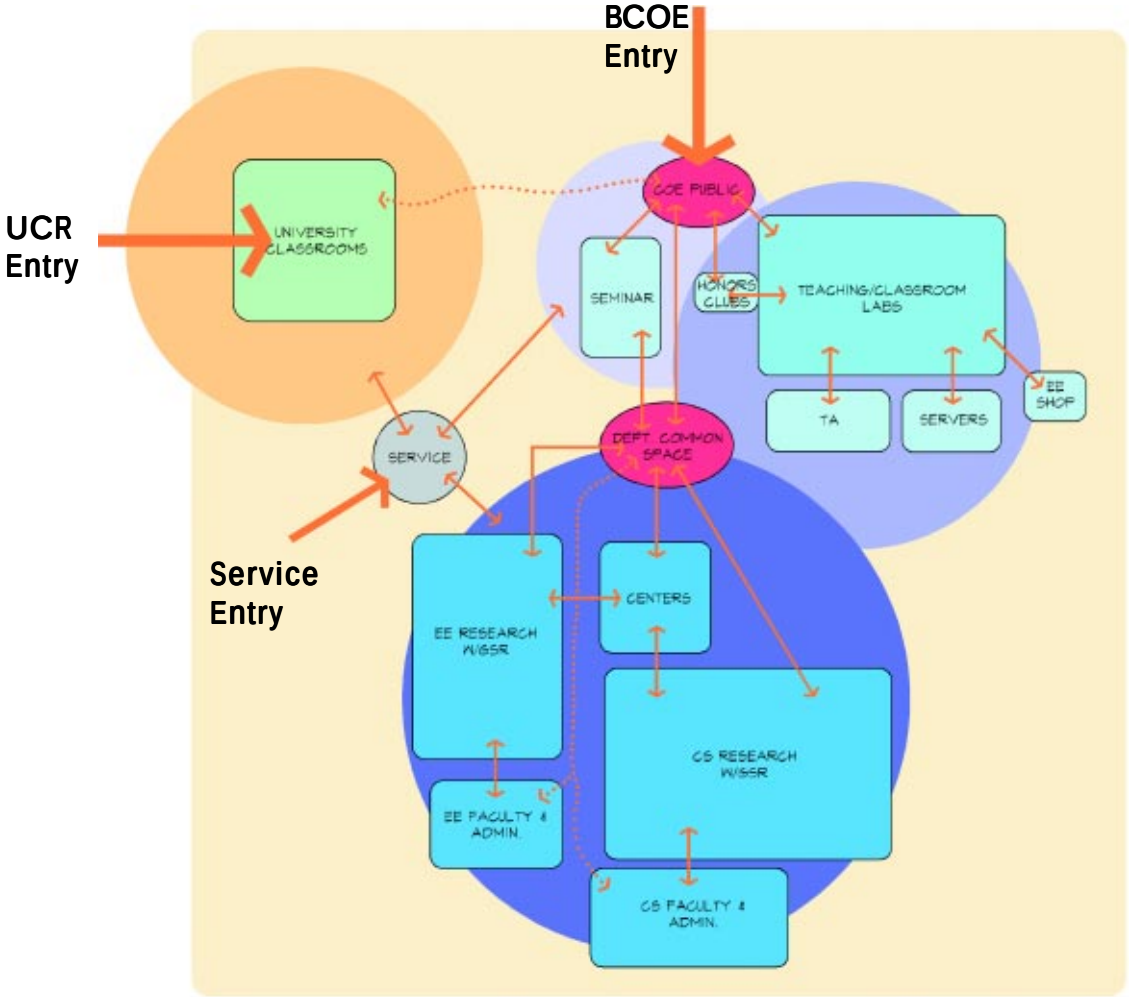
SPACE TYPE	QTY	ASF	TOTAL	Adjacencies and Comments
Centers				
CRIS	1	2400	2,400	Equal to 2 research labs at 1200.
CCSE	1	1200	1,200	
CCN	1	1200	1,200	
Subtotal Centers			**4,800**	
Scholarly Activities				
Conference Room/Seminar	1	2400	2,400	Seat 200 @ 12 sf/ person w/dividing wall
Design Rooms	2	400	800	Seat 20-24
Conference Room Support	1	600	600	Reception and Breakout
Resource Area/Reading Rooms	1	1200	1,200	Multiple areas
Study/ Interaction areas	1	1600	1,600	Includes Grad. Student Lounge at 400asf
Faculty Lounge	1	500	500	
Subtotal Scholarly Activities			**7,100**	
Student Support Spaces				
Clubs Office Space (9)	1	900	900	9 clubs in shared workstations
Honors Office Space (5)	1	630	630	5 honors in shared meeting/resource area
Summer Programs & MESA/MEP	1	0	0	To stay in Bourns Bldg. 1
Seminar Room			0	Share Building Seminar Room
Subtotal Student Support Spaces			**1,530**	
General Assignment Instructional Space				
Lecture Hall	1	1750	1,750	Seats 120
Lg. General Instructional Space	2	1231	2,462	Seats 60
Sm. General Instructional Space	2	572	1,144	Seats 30
Subtotal General Assignment Instructional			**5,356**	
TOTAL ASF			**89,686**	
Gross @ 59%			**152,010**	

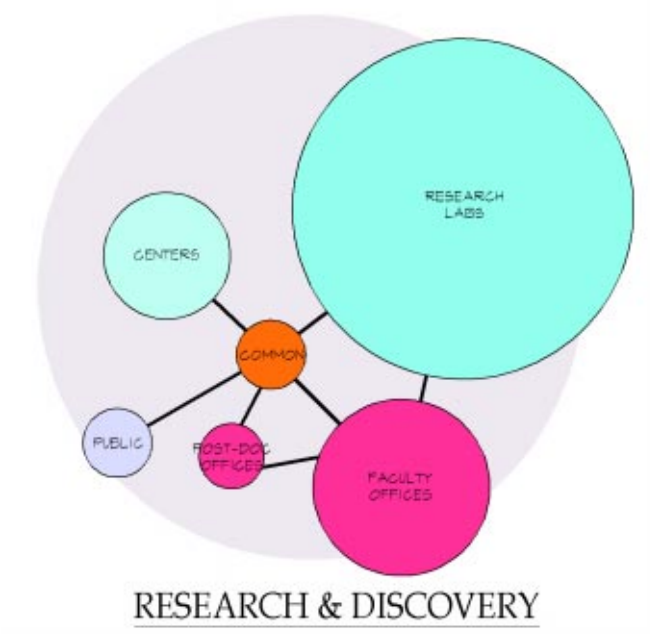
3.4 Functional Relationships

The following diagrams illustrate the relationships between the major components of the program. Points of entry, desired adjacencies, and intended separations are indicated.

There are to be three primary entries into the building. The main entry serves as the center for the Engineering Precinct, as identified in the LRDP, and will connect to Bourns Hall at multiple levels. The second entry will serve the general assignment instructional spaces. Its location will support easy access for the major student circulation flow from the center of the campus. The third entry is for building services with vehicular access to a loading dock. These three entries are to be distinctly separate.

The large seminar room and the design rooms will be clustered together to share conference support space and to allow the design rooms to serve as break-out spaces from the seminar room. These spaces will be located on the lower levels of the building to serve the entire BCOE as well as industry visitors.





RESEARCH & DISCOVERY

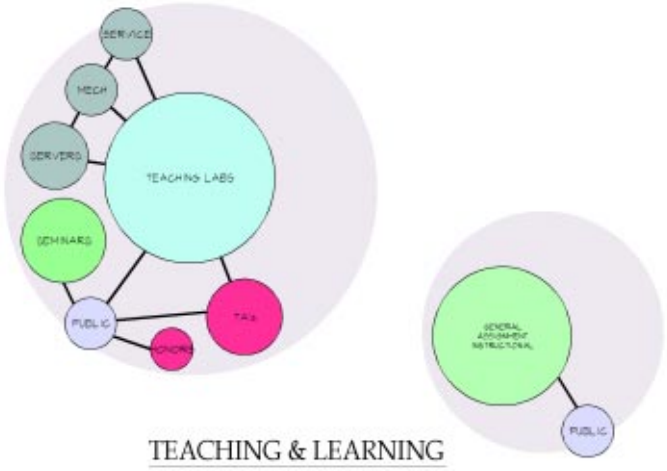
Research & Discovery

The research and discovery category is composed of research labs, centers and faculty offices. These spaces will be located on the upper floors of the building for privacy and security, and to separate them from the heavy traffic functions.

Faculty offices will be clustered in groups of six to twelve in close proximity to the research labs. Administration and office support spaces such as conference rooms, copy, mail, supply, coffee, and storage will be clustered in close proximity to the offices to promote faculty interaction.

The research labs will be clustered to allow for flexibility over time. Graduate student researchers will have work spaces within the labs.

Centers will also be located near the research labs for flexibility and adaptability.



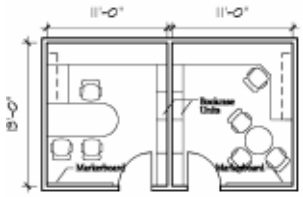
TEACHING & LEARNING

Teaching & Learning

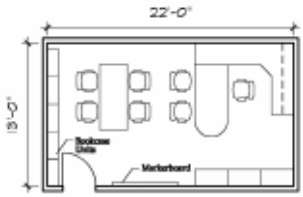
The teaching labs primarily support the undergraduate students. The teaching assistant offices will be clustered in close proximity to the teaching labs. These functions will be located on the lower levels for easy access by the students and for adjacency to the teaching labs in Bourns Hall.

The general assignment instructional spaces will be heavily used by students and faculty who are outside of BCOE. A separate entry will reduce traffic, provide functional clarity and improve security. The general assignment instructional spaces will be clustered together and physically separated from the BCOE functions. An internal connection will be provided to allow BCOE students and faculty direct access to the general assignment instructional spaces while discouraging non-BCOE students into EBU2.

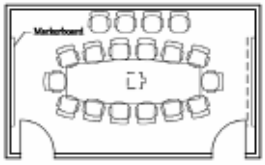
3.5 Modular Design and Flexibility



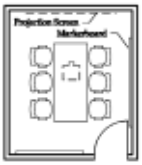
Faculty Office



Chair Office



Large Conference Room



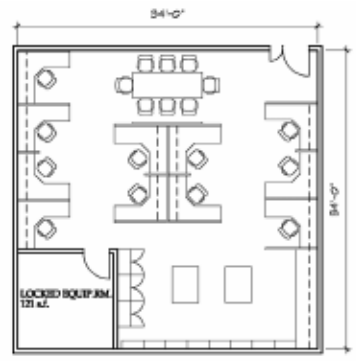
Small Conference Room

One of the primary goals for this project is to design for flexibility. This has been addressed in a number of ways, including the application of modular design. Modular design develops space sizes that serve different functions based on grouping, configuration, and assignment.

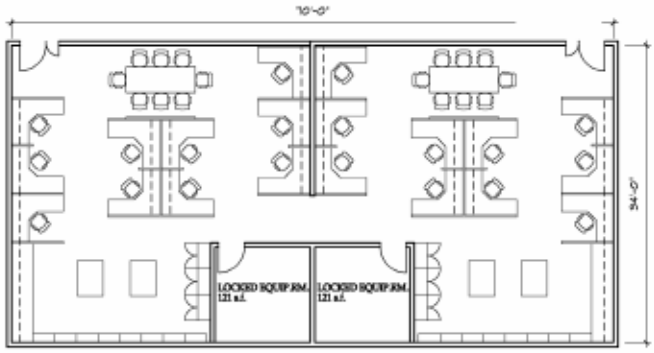
Program floor area has been defined into two categories. Assignable square feet (asf) is used in the program summary and used a base module rounded to the nearest tenth. The floor area in the room data sheets are based on a detailed layout of the space for maximum flexibility. This area is categorized as a Planning Module. For example: the assignable floor area for an office is 140 asf, whereas the planning module is 143 sf. This difference will be resolved in the next phase of the design.

As an example of modular design: faculty offices, shared post doctorate offices, small conference rooms, shared research support spaces, copy/mail, coffee/work rooms and storage rooms are all planned at 11' x 13', totaling 143 sf. They are therefore easily interchangeable. Shared teaching assistant offices, large conference rooms and chair offices are 22' x 13', equaling 286 sf or the equivalent of two faculty offices. They, too, are interchangeable and easily adaptable to make larger spaces if needed.

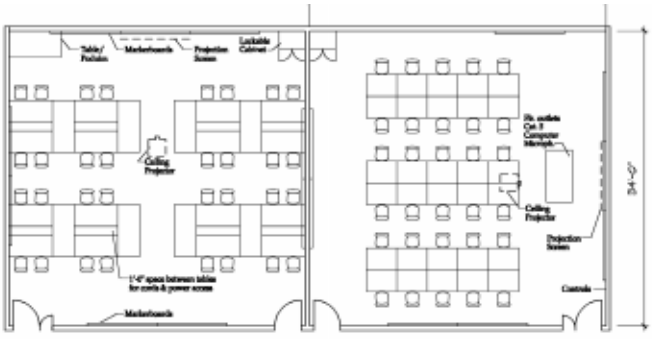
Research labs, centers and teaching labs are all planned at 1,200 asf, and are treated similarly in HVAC, power, data, and finishes. They are interchangeable with each other and allow Computer Science and Engineering & Electrical Engineering future flexibility as department sizes change. By clustering research labs together, there is the opportunity to connect individual labs into larger interdisciplinary labs.



Research Lab



Research Lab



Teaching Lab