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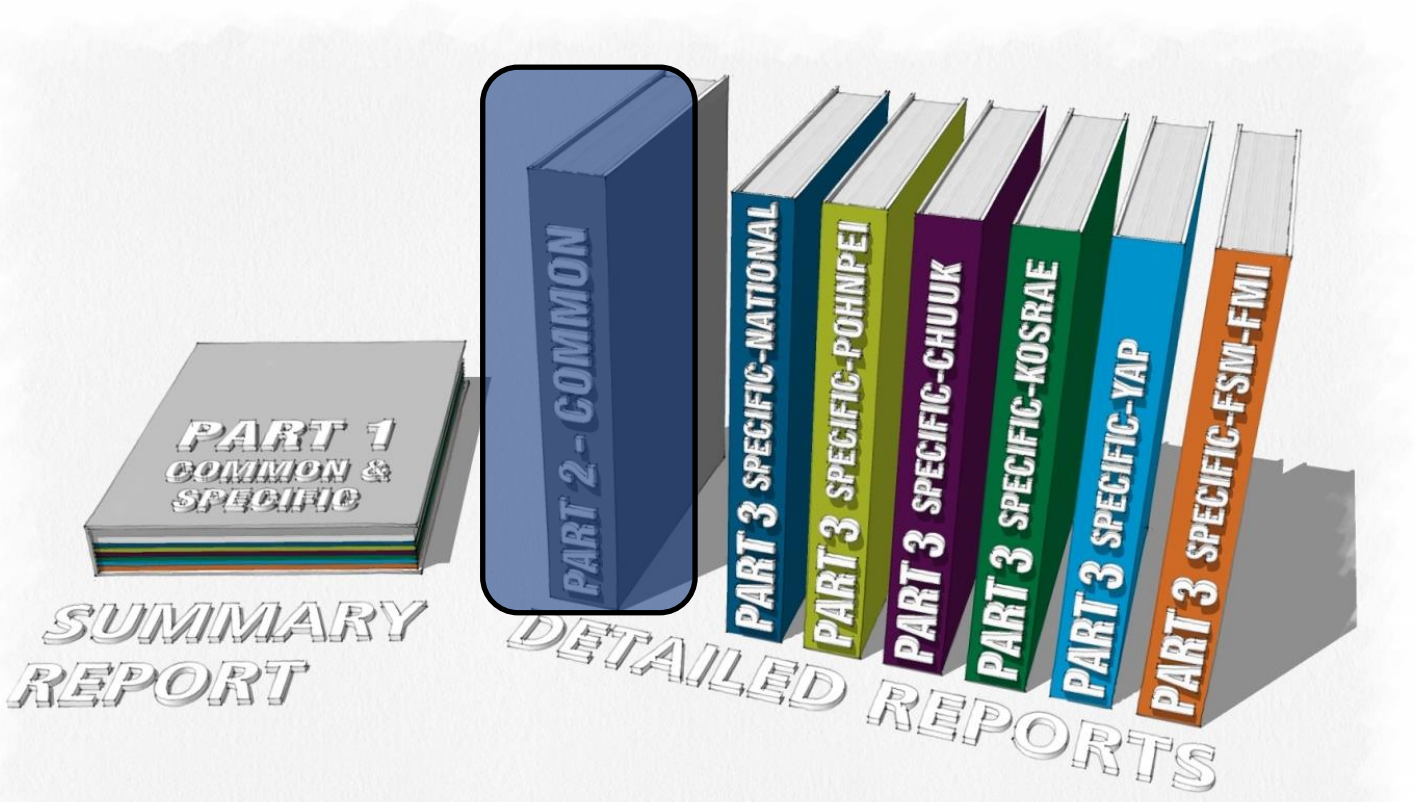
Report

College of Micronesia - FSM Space Utilization and Facilities Master Plan Study - Part 2 Detailed Report - Common to All Campuses

Prepared for the College of Micronesia - FSM

Prepared by Beca International Consultants Ltd (Beca)

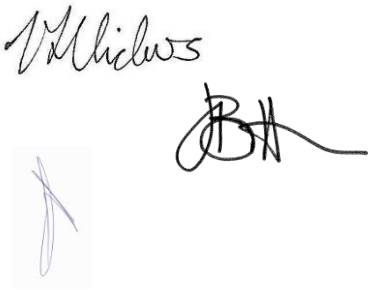
28 February 2014



Revision History

Revision Nº	Prepared By	Description	Date
1	**Annette Jones**	Draft for review by PCG	31/10/2013
2	**Annette Jones**	Final review issue for Board of Regents meeting on the 2nd December 2013	28/11/2013
3	**Annette Jones**	Final report	28/02/2014

Document Acceptance

Action	Name	Signed	Date
Prepared by	**Annette Jones, Mark Wilson, Warren Perkins, Mark James, Paul Leman, Claire Green.** **Wilson Hess /James Mulik from Sandy Pond Associates (Contributors of the Classroom Utilization Study)**		28/02/2014
Reviewed by	**Fraser Vickers** **Joe Briffa – Energy Audit** **Mark Wilson – Condition Assessment**		28/02/2014
Approved by	**Fraser Vickers**		28/02/2014
on behalf of	Beca International Consultants Ltd		

Executive Summary

The COM-FSM Space Utilization and Facilities Master Plan Study provides a summary of the current facilities condition and their utilization, the long term vision for the campuses; and the proposed staging to achieve this vision.

Some key points to consider in the implementation of the findings of this Facilities Study are:

New facilities tied to educational delivery

The link between the expansion of campus facilities justified on the basis of educational delivery requirements and/or new course delivery.

Projected headcount as the driver for campus facilities

The need to align the allocation of new facilities through consideration of the projected headcount for each campus and how this is balanced across all campuses.

Premier education facility

There is an opportunity for COM-FSM to maintain its position as the premier education provider with facilities of a quality to support National and State educational outcomes.

Preparedness for 2023

Through the implementation of the College's Facilities Master Plan informed by this Facilities study position the COM-FSM in the best shape post the Compact agreement review. The strategy to achieve this is to:

- Replace buildings that have disproportionate operational costs and/or have identified structural or building fabric condition issues
- Provide for targeted upgrades of the remaining buildings and/or retrofit for new or alternative functions

Bridge the funding gap through grants

To identify the funding available and implement a strategy of applying for additional grant funding to achieve all the projects outlined in the first five year plan within that period.

Identify the COM-FSM referenced maintenance level

The need to identify the appropriate building management framework to implement the College's Facilities Master Plan informed by this Facilities study that acknowledges the climate, cultural and financial funding factors.

Project execution and capacity building

There is an opportunity in the implementation of the College's Facilities Master Plan informed by this Facilities study to provide "real" world facilities management teaching opportunities for staff and students for the benefit of the nation.

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Contents

Appendices

1 Purpose of the Part 2 Volume - Common to All Campuses Detailed Report

The Part 2 report provides a summary of the reviews that are common to all campuses these being the space utilization study, the asset condition assessment and the energy review actions. It provides a comprehensive overview of prioritized project plans across all campuses and the common design principles proposed to underpin this future development.

2 College Wide Development Strategy

This development strategy has grown out of the Facilities Study process identifying the necessary steps to achieve the educational and community goals/ vision of the College of Micronesia - FSM. The recommended development strategy for the six College of Micronesia campuses is to:

1. Continue with COM-FSM being located across six campus locations with:

- **The state campuses providing 100 and 200 courses and providing the role of transition into degree courses generally offered at the National campus**
- **The existing National campus strengthened as the campus where most degree courses are offered**
- **The existing Pohnpei campus being recognised as the Career and Technical Education Center and for the efficient use of resources be the sole vocational facility for the nation**
- **There being one campus in two locations in Pohnpei each with their own character and offering but with increased sharing between the two**

2. Focus on sustainability of the existing campuses buildings and infrastructure by:

- **Identifying funding source/s for maintenance and renewals**
- **Working through the proposed maintenance recommendations to address deferred maintenance and minimise the escalation of campus building maintenance and renewal costs**
- **Reducing the maintenance cost through the removal and replacement of buildings and infrastructure that contribute to a disproportionate amount of the operating and maintenance costs**

3. Focus on the future sustainability of the COM-FSM campuses beyond 2023 by:

- **Following a staged development approach for each campus broken into 5, 10 and 10 + years with plan reviews/ updates at 5 year intervals to assess the impact of changes in actual and projected student numbers plus changes to education delivery, plus prioritising the development of campus assets as follows:**
  - **i. Addressing any health and safety issues**
  - **ii. Projects that have a link to educational outcomes**
  - **iii. Other projects that assist to support better campus outcomes**
- **Designing replacement and new buildings to be delivered through staged implementation and/or designed to have a multipurpose function allowing for change of use over time**
- **Focussing on sustainable design principles for new buildings i.e. passive solar design, material selection, use of natural ventilation and insulation to reduce operational cost.**

4. Implement a development strategy that:

- **Is fiscally responsible and is informed from an evidence base i.e. space utilization study, condition assessment, spatial review components**
- **Prioritises the provision of dedicated classroom space for Vocational Education giving effect to the Board of Regents Two-Year Action Agenda's emphasis on vocational programming**
- **Works towards a permanent site for the Chuuk campus on the Nantaku site based on a review of the spatial requirements, proposed infrastructure servicing and access assumptions from the 2001 Master Plan**
- **Considers development beyond the traditional classroom and Learning Resource Center models acknowledging that with the availability of wi-fi the location for learning to occur is no longer restricted to just these spaces**

2.1 Project Prioritization and Identification

2.1.1 Project prioritization

The development strategy underpins a series of projects that have been identified for each campus. These have been identified in considering the physical condition, spatial quality and energy efficiency of the current campuses particularly through the focus groups undertaken with students, faculty and staff as well as discussions with Deans of each campus.

The projects have been through a process of prioritization for each campus – identifying projects that are desired in the short term (next 5 years), medium term (10 years) and the long term (10+ years). A campus specific project plan, capturing the projects with their cost estimates, is included within each of the respective Part 3 Campus Detailed Reports.

The consolidated project plan included in this section brings together all the campus projects into a potential program, developed with the underlying principle of providing parity across campuses. Fundamental to this is the application of financial constraints, so the consolidated project list has been reviewed against the identified funding stream as informed by the PCG during the study.

2.1.2 Project identification

The outputs of the Space Utilization and Facilities Master Plan Study have informed the prioritization of facilities improvements. The inputs to the decisions made with regard to project development and prioritization has been drawn from a range of work streams, these being:

Classroom utilization study – a component of the spatial review workstream: The fourth key finding of the space utilization study is that “dedicated classroom space for Vocational Education should receive priority attention in facilities planning” with consideration in regard to the Pohnpei and Yap campus in the first instance. It is noted that the Board of Regents Two Year Action Agenda has placed an emphasis on vocational programming.

A further point raised as an outcome of the study is that the analysis suggests “there is little need to increase overall institutional classroom capacity on the basis of any foreseeable trend.” The basis to this point is that the overall classroom need as measured by projected enrolment changes throughout COM-FSM six-campus system is noted as relatively flat within the ten year horizon.

Key point from the classroom utilization study: The existing campuses are adequately provided for in regard to teaching spaces. The drivers for removing, relocating and/or replacing existing facilities do not come from a requirement to provide additional classroom space.

Asset (Building and Infrastructure) Condition Assessment workstream: A series of buildings have been identified and it is considered uneconomic to renew/maintain the building or asset and demolition/ replacement is recommended. This has come from either feedback received from the facilities questionnaire on specific building condition or observations from the assessment visit and analysis suggesting either structural failure of the foundations or building frame elements. This is further outlined in Section 2.3.

Spatial review workstream: The development of activity zones grouping similar activities in close proximity has led to a review of building suitability based on their location and function. The result is a list of projects where functions are proposed to be moved to achieve operational efficiency. Suggestions for modifications to buildings to suit new functions are also made in the campus project list.

To establish parity across campuses additional space is suggested for functions where the desired COM –FSM spatial target is not reached.

A review of the facilities that need to be provided for a future headcount number has also been completed. This has found that on some campuses there is need for additional Learning Resource Center or computer lab space along with facilities such as toilets or carparking to cater for the projected increased headcount.

Lastly, new activities that require specific buildings with spaces of a size and shape not already provided for on each campus completes the project list. A comprehensive campus list identifying proposed projects is contained in Chapter 2.6.

2.2 Ability for Campuses to Meet the Spatial Requirements of an Additional Headcount with Existing Classroom and other Facilities

As outlined in 2.1.2 Project Identification, “there is little need to increase overall institutional classroom capacity on the basis of any foreseeable trend.”

The historical data on enrolment figures from the COM-FSM website shows the fluctuation of headcounts over the last 10 year period. What is revealed by these figures is the ability of each campus to absorb increased headcount numbers.

Enrollment trends Fall Semester 2004 - 2013 by Campus

Term	Chuuk	Kosrae	National	Pohnpei	Yap	Total
Fall 2004	690	322	968	567	149	2696
Fall 2005	371	320	929	583	176	2379
Fall 2006	548	194	974	620	177	2513
Fall 2007	491	184	903	608	180	2366
Fall 2008	457	252	895	642	209	2455
Fall 2009	580	233	1005	712	228	2758
Fall 2010	479	218	1051	742	209	2699
Fall 2011	493	261	1088	845	228	2913
Fall 2012	409	268	1069	771	227	2744
Fall 2013	319	243	1017	672	195	2446

Further to this historical table the planning for the future requirements of each campus has been informed by the findings of the Education Assessment Study by Sandy Pond Associates (refer to Chapter 6 of this report):

One of the key planning tools is the campus design capacity driven by the 5-Year study period utilization rates and actual enrolments.

Following is an excerpt from Sandy Pond Associates to provide background:

Capacity Headcount by Campus

Chuuk	Kosrae	National	Pohnpei	*Yap
702	374	1300	956	364

** Note that the use of historic & observed data over the five year study period on the Yap campus does not fully account for classroom capacity represented by construction that just came into service or left service in Fall 2013.*

It should be noted that capacity is not a precise measure. It is influenced by a number of variables, including programmatic enrolments, pedagogical methodologies, and new program demands.

The methodology chosen utilizes the average of the historic headcounts and the average observed classroom utilization rates during the 5 year study period. The historic headcounts were divided by the average observed utilization rates for each campus location.

Across all campuses, this methodology suggests that cumulatively a growth factor of 34% above the 5 year study period average remains. This factor varies widely on each campus:

Chuuk	Kosrae	National	Pohnpei	*Yap
45%	52%	27%	19%	34%

Note: These capacity recommendations per campus are not seating capacities and classroom space should not be allocated or designed based on these figures. Furthermore, these capacities are based upon campus headcounts and are derived from the utilization rates of classrooms on each campus and thus can be used with some confidence to project the ability of the campus to function within these limits.

2.3 Assessing the Need for Additional Facilities Based on the 2018 Projected Headcount Figure

The COM-FSM Fall Enrollment Trends (2004-2023) captured in TABLE I.C.1 in Chapter 6 shows a total projected headcount figure in 2023 of 2914. This is less than the capacity headcount of 3696.

The briefing for the desired new facilities was taken on the campus site visits and has been assessed post trip against the projected headcount (from the space utilization review). The 2018 headcount figure has been selected as a facilities design figure as it is understood that there will be a review after a 5 year period. This provides an opportunity to check the actual headcount number and see if it is trending up or down.

As seen in the table below the 2018 headcount figures for some campuses is less than the current headcount. The impact of this is that there will be less projects on some campuses than anticipated. This information was made available after the August spatial review site visits. One of the drivers for the project prioritization is to achieve parity of facilities across campuses informed by the projected headcount.

Current and projected headcount in 2018 per campus

Campus	2013	2018
Kosrae	243	212 (13% less)
National	1017	1136
Pohnpei	672	898
Chuuk	319	296 (7% less)
Yap	195	263

The headcount number outlined in the table above is used within the individual Part 3 campus reports to benchmark the provision of toilets, learning resource center and computer lab space and parking stalls. This has led to a recommendation at some campuses (Yap, Pohnpei and National in particular) to increase the amount or size of some facilities and because of this has triggered a new building project.

2.4 Buildings Requiring Replacement Based on the Asset Condition Assessment

As outlined in 2.1.2 Project identification, the findings of the Asset Condition Assessment has informed the project prioritization. Out of the 68 buildings surveyed, 11 have been identified as having a poor grading with an added overlay of a poor structural condition grade. Repairs to the structural elements becomes an issue, particularly for teaching spaces without the availability of spare buildings to move into while these buildings undergo repair.

The following buildings have been identified as having a poor structural or building fabric grade:

Campus	ID	Building Description
National	L	FSM- China Friendship Sports Center
Pohnpei	B	Bookstore
	C	I.C Building/ Electronics Classrooms
	D	Classroom Building A
	K	TSP/ UB Building
Chuuk	D	Campus Dean's Office
	J	Student Center
Kosrae		Nil
Yap	A	Administration Building
	C	CRE building
	G	Vocational building
FSM-FMI	F	Security Post

The location of these buildings on each campus is shown on the Building Condition Assessment Summary Plans in Chapter 8 of this report.

The following buildings have been identified as having a disproportionate operational and maintenance cost (when compared to their estimated replacement cost).

Campus	Building or Asset	Replacement Cost (as % of Campus Assets) (A)	Operational Cost (as % of Campus Operational Cost) (B)	Difference (C= B - A)
National	Gymnasium	19%	31%	+12%
Pohnpei	UB & TSP	17%	49%	+32%
Chuuk	Midtown (off campus)	6%	20%	+14%
Kosrae	Site infrastructure	17%	25%	+8%
Yap	Vocational Building	10%	29%	+19%
Yap	Administration Building	14%	22%	+8%
FSM-FMI	None identified			

The above table assumes that the proportional ratio between the replacement cost and the operational cost should be equal. Any discrepancy in this ratio highlights where additional operational cost is being incurred. Refer to Appendix C in the campus specific reports for more detail on the above.

In comparison (to the table above) the new buildings on the Yap campus (as shown in the table below) highlight the savings in operational costs that new and appropriately designed buildings can deliver for COM-FSM.

Campus	Building or Asset	Replacement Cost (as % of Campus Assets) (A)	Operational Cost (as % of Campus Operational Cost) (B)	Difference (C= B - A)
Yap	Student Center (New)	15%	8%	-7%
Yap	Classroom Building (New)	18%	8%	-10%

2.5 Proposed Removal, Relocation and/or Replacement of Existing Facilities Informed by the Spatial Review

The outcome of the spatial review is the identification of new building projects. In this Facilities Study the following buildings have been identified for removal in the next 5 years either because of their location (they need to be removed for access or there is a new building to be located in their place) or their shape and size means they no longer provide a functional use.

Campus	ID	Building Description	Reason for removal
Kosrae		Toilet block next to Classroom Building J	No longer used as a toilet block
	C	Faculty Building	Open up the center of the campus

The remaining buildings on each site will require the deferred renewals and maintenance to be addressed so they will not degrade further. This is discussed in the Asset Condition Assessment in Chapter 8 of this report.

The following new buildings have been identified through the spatial review for development in the next 10 years (up to 2023). A further iteration of the table below is required based on the available funding.

Ten year project list 2013 - 2023

Campus	Plan ID[1]	Building Description	Reason for identification
National	1	Health Clinic	COM-FSM initiative following the move of Public Health to southern boundary and potential to interface with the community
	2	New student center	Provide a center for students on campus
		Covered area for residential students	Provide a center for students on campus, meeting place
		Contemplation building	Identified as a need through the focus groups
Pohnpei	1	New technical education classroom (previously called Voced)	Support the 2 year Board of Regents Action Agenda's Emphasis Plan to prioritize the provision of dedicated classroom space for Vocational Education
	2	New multipurpose technical education building	

[1] For location of the building on site refer to the plans in Chapter 1.2 of the Part 3 report detailed report.

	3	New learning resource center`	Provide adequate space for increased student numbers
	4	Multipurpose technical education building on the main road frontage (previously called Voced)	Support the 2 year Board of Regents Action Agenda's Emphasis Plan to prioritize the provision of dedicated classroom space for Vocational Education
Chuuk – existing site	A	CRE Extension(funded by others)	Provide space for existing extension offering currently lacking dedicated space
Chuuk - Nantaku site	1	Administration, faculty and student services	Provide the facilities required on the new site for the projected student numbers
	2	New classroom building	
Kosrae	1A	New multipurpose building (Stage 1)	Provide for centralized services and a covered student meeting space
	1B	New multipurpose building (Stage 2)	Expand the building to meet service requirements for an increased roll
	2	Maintenance facility	Replacement and provision of storage facility
Yap	1	Vocational education building	Support the 2 year Board of Regents Action Agenda's Emphasis Plan to prioritize the provision of dedicated classroom space for Vocational Education
	2	Administration and faculty building	New building replacing the existing that has issues with floor and walls
	3	CRE Extension building (funded by others)	Space not currently provided for on site
	4	LRC and computer lab	Provide adequate space for student numbers
FSM-FMI	1	Residential building	Allow for expansion of administration functions in the administration wing by providing a separate residence
	2	Classroom/ study building	Enable the existing computer lab to expand and allow for group study
	3	Engineering shop	Provide for adequate space and ventilation

The following new buildings have been identified through the spatial review for development after 2023:

Campus	Plan ID[2]	Building Description	Reason for addition
National	3	New Marine Science/ Applied research	Provide for degree courses in marine science and support research by having a dedicated facility
Pohnpei	5	Two storey administration and classroom building	Provide for replacement classrooms and improved entrance facility – front face to the campus
Chuuk	3	New LRC and Land Grant	Provide the facilities required on the new site based on projected student numbers
	4	New maintenance facility	
Kosrae	3	CRE building (funded by others)	Replacement building
	4	LRC building	New facility and allow for expansion of functions in the multipurpose building
	5	Multipurpose sports/ drama building	Support educational aims
Yap	5	CRE - Research (funded by others)	Replacement based on the existing building condition assessment
	6	New classroom block	Additional classrooms dependent on increased student numbers
	7	Gymnasium or covered court	Provision of a recreational amenity
FSM-FMI		Covered recreation area	Provision of an all-weather recreation facility

[2] For location of the building on site refer to the plans in Chapter 1.2 of the Part 3 report detailed report.

2.6 Consolidated Campus Project List

Additional to new buildings on each campus is the refurbishment of existing buildings, infrastructure and open space projects. The full consolidated campus project list developed for the Facilities Study is outlined in the following table. The order of projects is captured in a summary list at the end of this table. This summary captures the priorities for new development at the COM-FSM campuses following input from the Board of Regents in December 2013, PCG input through the study and discussions held during the Campus site visits.

	NATIONAL CAMPUS	
	5 year period to 2018	
1	Secure IT facilities with server room and backup area	$40,000
2	Public community health interface building	$1,510,000
3	Toilets at MITC building - replace darkroom area with wc facilities accessible for weekend use	$35,000
4	Rationalize the science storage space to include project space through replanning layout of the existing space	$50,000
5	Rationalize the administration area through the review of area used for storage of files and alternative means of storage - moveable shelving, digitized files	$50,000
6	Upgrade the gymnasium building to provide facilities required for next 10 years - i.e. space cooling, water storage, solar panels (potential for funding by others)	$400,000
7	Increase disabled access across the site - access to both administration levels	$170,000
8	Consolidate bookstore and bookstore warehouse area	$20,000
9	Relocate security within the campus (previous bookstore area)	$5,000
10	Provide a covered pick up/ drop off space for taxis/ buses at main entry	$20,000
11	New two level student services building	$2,909,999
12	Landscape work, paths in connection with the new student services building	$265,000
13	Remove offices on the side of the dining hall and increase dining hall space	$20,000
14	Combined covered area for residential students	$115,000
15	Full outdoor Basketball court	$80,000
15a	Sewage leaching field	$135,000
15b	Track and field / baseball facility including associated vehicle access and parking as well as pedestrian access	$1,000,000
	10 year vision to 2023	
16	Quiet contemplation place for residential students - pastoral care	$50,000

17	Marine science/ applied research building adjacent to the agriculture building	$2,035,000
	Further projects (not in order of priority)	
	Solar power generation	$500,000
	POHNPEI CAMPUS	
	5 year period to 2018	
1	Create a vehicle route through the campus for service access and service with fire hydrants, consider demolition of end of classroom building to route access around existing mahogany trees. Seating areas for small group or individual study.	$280,000
2	Relocate building K functions (TRIO program) to top floor of PSBDC	$5,000
3	Demolish Building K	$100,000
4	Demolish the Electronics building	$20,000
5	New technical education classroom building along the boundary on the upper campus	$1,530,000
6	New multipurpose technical education building along the boundary on the upper campus	$1,525,000
7	Wifi connectivity	$0
8	Site works associated with the new technical education buildings including rationalizing vehicle access, parking lot, signage, pedestrian connections, perimeter and structured planting	$320,000
9	Create a public face for the upper campus with new signage and entry points	$25,000
10	New facility for LRC	$1,160,000
11	Demolish bookstore	$30,000
12	Walkway connecting high level buildings to lower level access road, access route from elementary school to top of the site as an alternative access	$275,000
	10 year vision to 2023	
13	Demolish carpentry and mechanical building	$30,000
14	New multipurpose technical education building at the upper campus entry with area for maintenance and storage	$765,000
15	Relocate Land Grant to top floor of PSBDC and remove COM Land Grant and relandscape front of PSBDC	$175,000
	Long term vision - beyond 2023	
16	Turn around area in front of administration with a one way entry and exit	$50,000
17	Two storey building at the front gate of the lower campus for administration and faculty	$4,870,000

18	Demolish administration building	$30,000
19	Increased carpark area in the lower campus and landscaped small study area, outdoor volleyball area, eating space	$630,000
	Further projects (not in order of priority)	
	Solar power generation	$500,000
	Works to increase drainage capacity - swales and subsoil drainage	$150,000
	Fire fighting hydrants through site	$170,000
	CHUUK CAMPUS	
	5 year period to 2018 - assumes interim upgrades prior to move to a permanent site	
1	Extend campus to the north, fence perimeter and create a coral base carpark area with an entry and exit onto the main road	$210,000
2	Restrict cars to campus, designate carpark area for visitors, create a central grassed area, 2 study huts on the coastal edge	$100,000
3	Retrofit a classroom with a science bench and plumbing	$80,000
4	Reroof student covered area and add roof ventilation	$0
5	Upgrade wi fi	$0
6	Extend CRE - extension building to main road ($520,000 funded by others)	$0
7	Landscaping (continuous line of hedges) along the road frontage and upgrade signage	$20,000
8	Meeting room for student body meetings - review classroom use and retrofit within existing building footprint	$5,000
9	Staff lounge - meeting place for all faculty - review classroom/ faculty space and consider conversion of one faculty office	$5,000
10	Conference space set up with conferencing remote learning - review classroom utilization and convert classroom space to new function	$0
	7 year vision on the Nantaku site - to 2020	
11	Road connection to site	$2,300,000
12	Site infrastructure services - water supply, site drainage, sewage disposal, electricty	$3,250,000
13	On site roading infrastructure and form basketball hardcourt area	$1,250,000
14	Building 1,2 - two level administration and classroom building and associated landscaping	$8,030,000
	10 year vision to 2030	
15	Building 3 – LRC and Land Grant	$4,235,000
16	Building 4 - Maintenance building (at top of the site)	$430,000

17	Building 5 - two level classroom building dependent on roll number increase	$3,390,000
18	Associated landscaping	$135,000
	Further projects (not in order of priority)	
	Solar power generation	$500,000
	KOSRAE CAMPUS	
	5 year period to 2018	
1	IT server in a secure environment in the existing administration building	$40,000
2	Upgraded Wifi	$0
3	Open sided shelters for charging electronics and outdoor study (4 off)	$40,000
4	Consolidate student services functions in a multifunctional building - stage 1 two storey building	$3,280,000
5	Site works associated with multifunctional entry building - carpark, streamside works along the length of the new building , landscaping, signage, pedestrian connections, perimeter and structured planting, clear view shafts to visitor center	$560,000
6	Recreational area - outdoor basketball/ volleyball space and associated landscape works	$150,000
7	Refurbishment of the old LRC and computer lab into classrooms	$30,000
8	Demolition of the toilet block at the eastern end of Classroom Building J	$5,000
9	Demolition of Faculty Building C and upgrade surrounding vehicle access and carpark	$290,000
10	Demolition of Bookstore Building I and provide for a landscaped area (either active or passive recreation). Alternative is to remove portions of the walls to create an open air study area and solar charging station	$110,000
	10 year vision to 2023	
11	Stage 2 of the entry multipurpose building with faculty and administration functions added to building	$1,050,000
12	Relocation and fitout of specialized science classroom and faculty space into Block J. Demolish administration / science building	$220,000
13	Pedestrian bridge across to southern streamside bank and level area for covered open sided multipurpose drama/ recreation space - ability to seat up to 300	$1,050,000
14	New storage and maintenance building	$400,000
15	Demolish existing maintenance office and building - landscape works along the streamside	$150,000

	Long term vision - beyond 2023	
16	New CRE - extension building either at research building site or in the community interface activity zone	$1,310,000
17	New Learning Resource Center	$2,525,000
18	Associated landscaping with the LRC - paths, shrubs, seating	$560,000
	Further projects (not in order of priority)	$0
	Provide facility for on site water supply	$530,000
	Solar power generation	$500,000
	Investigate and reroute power lines across the site	$50,000
	Works to increase drainage capacity - swales and subsoil drainage	$50,000
	YAP CAMPUS	
	5 year period to 2018	
1	Formed paths providing direct connection between buildings through the center of the campus	$65,000
2	Refit computer classroom for combined upward bound and computer lab	$20,000
3	Access to boundary carpark - southern boundary	$440,000
4	Fence around German tower if required	$15,000
5	New VOCED building and maintenance facility	$2,400,000
6	Create hard court area near Student Services building , 2 study huts and landscaping	$40,000
7	Implement a landscape plan across the campus	$265,000
	10 year vision to 2023	
8	Demolish computer lab building	$30,000
9	New administration and faculty building on computer lab site	$1,720,000
10	Demolish administration building	$30,000
11	New LRC and computer lab on previous administration site	$1,900,000
12	New CRE extension to CRE building	$670,000
	Long term vision - beyond 2023	
13	Relocate hardcourt area	$85,000
14	Additional new classroom block between student center and classroom block	$740,000
15	New gymnasium	$1,930,000
16	New CRE - Research wing ($1,120,000 funded by others)	$0
	Further projects (not in order of priority)	
	Relocate power poles servicing other properties	$50,000
	Solar power generation	$500,000
	Works to increase drainage capacity - swales and subsoil drainage	$50,000

	FSM-FMI CAMPUS	
	5 year period to 2018	
1	Address provision of fire fighting facilities	$165,000
2	Building 1 - New duplex residence for instructors in the residential zone	$840,000
3	Relocate women's quarters into the north eastern end of Administration Building A and add conference room and administration office to area vacated by the residence.	$40,000
4	Remove wall between men's and previous women's quarters. Move men's quarters to the north and utilise the southern quarters as library study space	$5,000
5	Increase computer room to incorporate former library space in Building C	$3,000
6	Separate server room from IT office (within existing building envelope)	$20,000
7	Provide covered access over classroom doors to Building C, new cadet toilet block next to Seaman's shelter and rationalise location of the access path	$60,000
8	Upgrade below ground services - drainage and watersupply	$200,000
9	Storage for maintenance materials (potentially a container type facility)	$10,000
10	Address the current sewage system and leaching field	$135,000
	10 year vision to 2023	
11	New classroom/ study space with covered access connecting to residential quarters	$465,000
12	Improve shop areas by constructing a stand alone engineering shop area	$265,000
13	New security post	$30,000
	Provide facility for on site water supply	$350,000
	Solar power generation	$500,000
	Works to increase drainage capacity - swales and subsoil drainage	$100,000
	Long term vision - beyond 2023	
14	Covered recreation area (over basketball court) for drills	$740,000
	Further projects (not in order of priority)	
	Work with State Government to investigate rerouting the main road to the south of the classroom Building C	$200,000
	TOTAL	**$73,968,000**

New Development Priority listing (prepared following input from the Board of Regents in December 2013, PCG input and discussions held during the Campus site visits during the course of the Facilities Study).

Year 1 to 5

1. Pohnpei campus - 3 buildings

   New Technical Education Classroom, Multipurpose Technical Building (including workshops) and Learning Resource Center and associated demolition and onsite campus roading and infrastructure services upgrades

2. National campus - 2 buildings

   Health Clinic and new Student Center

3. Yap - 1 building

   Vocational Education building and associated onsite campus roading and infrastructure services upgrades

4. Chuuk - existing Weno site

   Targeted upgrades to the existing Weno site and further investigations for the Nantaku site

5. Kosrae - 1 building

   Stage 1 of a multipurpose building (Student and Administration Center) and associated onsite campus roading and infrastructure services upgrades

6. FSM-FMI

   Onsite campus infrastructure services upgrades

Year 6 to 10 - US $24.2 Million

1. National - 1 building

   Marine Science and Applied Research building

2. Pohnpei - 1 building
   New multipurpose technical education building at the upper campus entry with associated campus roading and services infrastructure

3. Yap - 2 buildings
   Administration/ faculty building and Learning Resource Center/ Computer hub buildings

4. Chuuk (Nantaku site – 3 buildings)
   On site infrastructure servicing (roads, sewerage, water, power, telecoms supply), two educational/administration function buildings and a maintenance facility. Extent of the facilities provided will need to be reviewed at Year 6 based on the projected student roll. The outcome of the Facilities Study indicates a declining roll and therefore reduced need for facilities in the future. An assumption made is the road to the Nantaku site is funded and built by others prior to the campus development.

5. Kosrae - 2 buildings

Stage 2 of the multipurpose building, multipurpose drama building with associated site services infrastructure and upgrades to maintenance and storage facilities

6. FSM-FMI - 2 buildings

   New classroom building and extension to the engineer shop facilities

Year 10 to 15 – US $19.9 Million (post Compact timeframe)

1. Pohnpei - 1 building
   Administration/LRC and Faculty building at the lower campus entry with associated site services infrastructure and carpark provision

2. Yap - 2 buildings
   New classroom block and a gymnasium building

3. Chuuk - Nantaku site – 2 buildings
   Two additional educational buildings dependent on student roll numbers

4. Kosrae - 1 building
   Learning Resource Center

5. FSM-FMI - 1 building

   Covered recreation area

2.7 Identified Funding Source

Known funding sources available to COM-FSM have been identified by the Project Control Group. As well as the known funding streams there are also potential funding streams. There is a need to identify funding for both new facilities as well as the renewal and maintenance of the existing facilities. A balance is required between the desire for new facilities and making sure the existing facilities are at a standard that enables the campus to function adequately.

2.7.1. Identified funding sources for capital works

We understand that there has been a previous budgetary commitment for capital improvement projects. Table 1 outlines the list of projects with estimated capital values submitted to FSM and OIA (US Office of Insular Affairs) provided by the PCG as an input to the study. We have taken this project list as an indication of the quantum of funding forthcoming as part of the Compact agreement. The final project plan developed as part of the Facilities Study incorporates the projects in Table 1 below that continue to be identified as those that will contribute to the future sustainability and educational direction of the College.

Table 1: Outline of the current budget appropriation

COLLEGE OF MICRONESIA - FSM
CAPITAL IMPROVEMENT PROJECT
BUDGET PLAN FY 2009

As of April 22, 2010

Project Description	2005-to 2006	2007	2008	2009	2010	2011	2012	2013	TOTAL
Yap Campus Classroom & Student Center & Furnishing	2,200,000	Under Construction							
Yap VOCED	(Hold)								
Kosrae Campus Student Center		1,334,880							
Kosrae Campus LRC	(Hold)		1,085,830						
Kosrae VOCED	(Hold)								
Pohnpei Campus LRC	(Hold)			1,448,038					
Pohnpei Campus Classroom & Vocational Center				1,335,000					
National Campus Student Center					1,856,000				
Chuuk Campus Phase I	(Hold)					2,760,000			
Chuuk Campus Phase II	(Hold)						4,731,380		
Chuuk Phase III	(Hold)							1,595,000	
Natural Science Classroom & CRE									
Total Project Cost	**2,200,000**	**1,334,880**	**1,085,830**	**2,783,038**	**1,856,000**	**2,760,000**	**4,731,380**	**1,595,000**	**18,346,128**
IMF									917,306.40
Budget Appropriation	**1,830,000**	**1,500,000**	**2,350,852**	**2,397,956**					**8,078,808**
Difference	**-370,000**	**165,120**	**1,265,022**	**-385,082**					**(10,267,320)**

Table 2: Cross reference of the appropriated amount to the FSM Public Law number

Public Law Number	Fiscal Year	Amount				
PL11-9	**2005**	$ 330,000.00		**Amount Appropriated**		$ 8,078,817.00
PL14-50	**2006**	$ 1,500,000.00			**Amount Obligated**	$ 2,200,000.00
PL14-80	**2007**	$ 1,500,000.00			**Balance**	$ 5,878,817.00
PL15-11	**2008**	$ 2,350,852.00				
PL15-71	**2009**	$ 2,397,965.00				
TOTAL Appropriation		**$ 8,078,817.00**				

Note: PL13-35 FY2004 IDP budget of $350,000 for Chuuk has been reimbursed to COM-FSM.

Table 3 summarises the anticipated Compact of Free Association, FSM Infrastructure Development Funds out to 2023. These figures have been used to inform capital project planning.

Table 3: Anticipated Compact of Free Association, FSM Infrastructure Development Funds to inform capital project planning (assume up to 2009 figure of $5.9M with $2M US per year from 2010 to 2023)

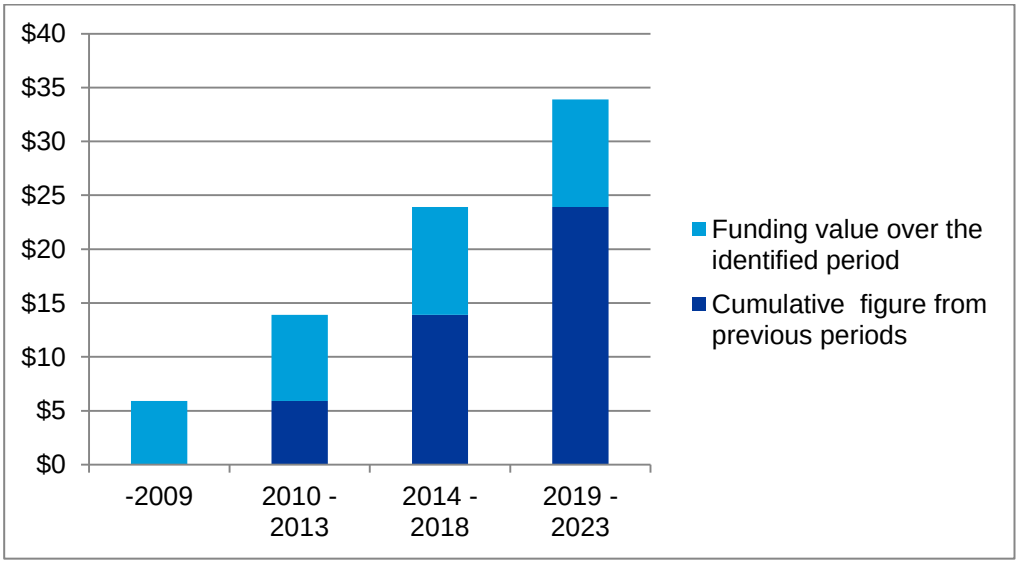
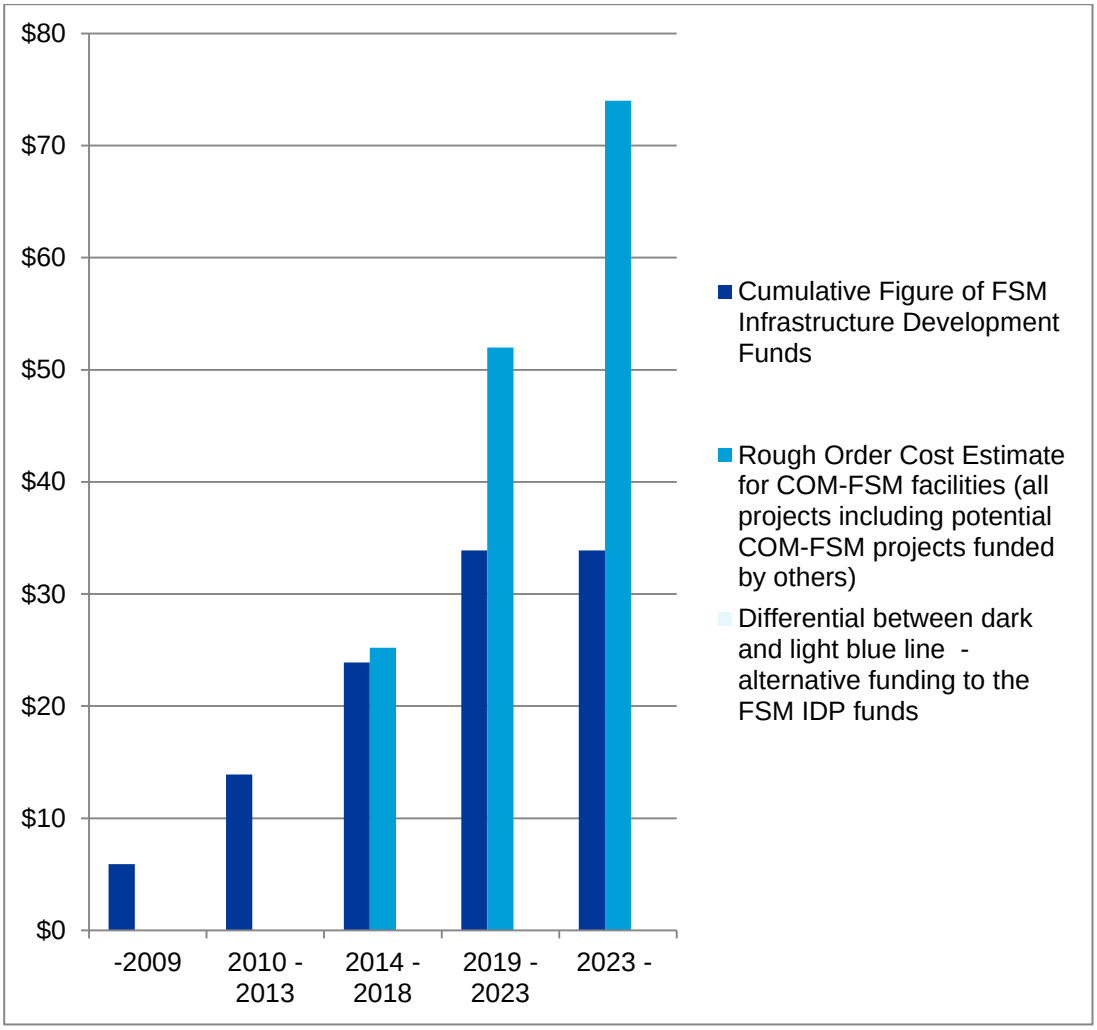


Table 4: Anticipated Compact of Free Association, FSM Infrastructure Development Funds versus Facilities Study rough order cost estimate



2.7.2. Identified funding sources for maintenance and renewals

With the figure of $3.3M for the periodic maintenance and renewal of building element requirements (including escalation) identified in the Asset Condition Assessment it is imperative to secure funding sources for this activity. This is required alongside funding for replacement buildings that have deteriorated beyond repair or are no longer effectively supporting educational outcomes.

2.7.3 Additional Potential Funding sources

The following additional funding sources and value are identified:

Physical Resources Contingencies Fund
On August 16, 2011, the President's Cabinet approved a Physical Resources Contingency Fund policy presented by the Vice President for Administrative Services. The policy called

for an initial allocation of $500,000 from the fund balance and additional deposits of $50,000 annually. The purpose of the policy is to ensure immediate access to a reliable and ongoing funding source to support facilities issues not funded through the annual operations budget.[3]

Further to this the following potential funding has been identified - the availability and scale of the following needs to be considered.

- Sustainable energy initiatives - capital projects
- Student facilities fee
- FSM state funding
- Education aid for capital projects
- Potential student volunteer labour (See Chapter 10.2 Optimised Maintenance Strategy)
- Any other known sources that can be identified by the PCG
- Current COM-FSM operations budget for maintenance (currently $150,000)
- Current COM-FSM budgeted amount for renewals (currently advised by PCG set at $350,000)

2.8 Connection to Facilities Planning and Financial Planning Discussed in the Integrated Educational Master Plan (IEMP) and Other Reports

This report, the Space Utilization and Facilities Master Plan Study, will inform the review of the Facilities component of the Integrated Educational Master Plan (IEMP). The IEMP was last issued in March 2013 and is due for review in 2018.

There is an issue to address in the financial plan regarding the operations and maintenance budget due to the scale of the renewals and maintenance budget identified as required in this study.

The integration of finances and the planning process has been raised in the following paper referenced in the IEMP, the *COM-FSM Quality, Sustainability and Success: A framework for Planning and Action*, written by President Joseph M. Daisy, EdD in April 2012.[4]

Step 3 (in italics below) in this paper outlines the importance of allocation of COM-FSM resources and integration of finances and the planning process.

> *Engaging in a systematic and regular review of the allocation of resources to assure that we fulfill our mission and maintain institutional effectiveness. In light of the significant financial constraints we face as a result of the JEMCO decrement,*

[3] College of Micronesia-FSM Mid-Term and Follow-Up Report (March 2013) http://www.comfsm.fm/accreditation/2013/midtermreport/MidTerm_and_Follow_Up_Report_2013_Final.pdf, page 46.

[4] *Daisy EdD, President J. M. (2012, April). COM-FSM Quality, Sustainability, and Success: A Framework for Planning and Action.* http://www.comfsm.fm/irpo/visioning-summit/White-Paper.pdf

more than ever before it will be essential for us to integrate our finances with our planning process. An ongoing, transparent financial planning process which informs our integrated planning process will enable us to prioritize our broad educational objectives and effectively deploy our human, physical, technological and financial resources.

- *Review immediately the alignment of our operational and financial plans for FY 2013 and if necessary re-prioritize these plans. We must also carefully review the financial resources in our plan implementation through FY 2015.*

- *Institute program reviews for all non-academic areas beginning in FY 2013 and link the results of academic and non-academic program reviews to resource allocations that will achieve our institutional learning outcomes.*

A status report by Sandy Pond Associates called *COM-FSM Quality, Sustainability, and Success: a Framework for Planning and Action - Status Report*[5] in October 2012 measures the progress of the steps outlined in the White Paper, and outlines the work that remains.

For Task 1 for Step 3 the following was documented:

Step 3.

Engaging in a systematic and regular review of the allocation of resources to assure that we fulfill our mission and maintain institutional effectiveness. In light of the significant financial constraints we face as a result of the JEMCO decrement, more than ever before it will be essential for us to integrate our finances with our planning process. An ongoing, transparent financial planning process which informs our integrated planning process will enable us to prioritize our broad educational objectives and effectively deploy our human, physical, technological and financial resources.

Task 1.

Review immediately the alignment of our operational and financial plans for FY 2013 and if necessary re-prioritize these plans. We must also carefully review the financial resources in our plan implementation through FY 2015.

Work Completed

- The college has created a five-year financial plan that is tied to the Integrated Educational Master Plan (IEMP).
- The FSM National Government has reiterated its commitment to the college, as evidenced by its approval to restore the first $700,000 of the JEMCO decrement.

[5] *Sandy Pond Associates, (October 2012) COM-FSM Quality, Sustainability, and Success: a Framework for Planning and Action - Status Report*[5]
http://www.comfsm.fm/accreditation/files/10-26/COM-FSM-Status-Report-on-White-Paper.pdf

Work Remaining

- The college ought to prioritize the plans within the IEMP through an approved governance structure.
- The college should determine the long-term level of financial commitment of the FSM National Government to the college as related to the remaining $2.1 million JEMCO decrement.
- The college should consider establishing documented contingency scenarios for replacing the JEMCO decrement.

Table 5: Financial Plan from the IEMP

The Financial Data of the Plan

College of Micronesia - FSM
Five – Year Financial Plan 2013 to 2017
By Functional Classifications

	2013	2014	2015	2016	2017
Projected operative revenue:					
Tuition and fees	6,931,351	6,931,351	7,758,742	8,380,201	9,015,960
Increase in tuition and fees	-	618,873	621,462	635,759	-
Increase in average credit	-	208,518	-	-	-
Increase in enrollment	-	-	-	-	177,923
Other revenue	-	130,000	130,000	130,000	130,000
FSM - Education Sector Grant	3,100,000	2,400,000	1,700,000	1,000,000	1,000,000
FSM - General Fund	700,000	1,400,000	2,100,000	2,800,000	2,800,000
	10,731,351	**11,688,742**	**12,310,204**	**12,945,960**	**13,123,883**
Projected operating expense:					
Instruction	4,899,442	5,144,414	5,401,635	5,671,716	5,955,302
Student services	1,306,714	1,372,050	1,440,652	1,512,685	1,588,319
Academic support	951,002	998,552	1,048,480	1,100,904	1,155,949
Institutional support	1,453,381	1,526,050	1,602,354	1,682,471	1,766,594
Operations and maintenance	1,996,027	2,095,828	2,200,620	2,310,651	2,426,183
	10,606,566	**11,136,894**	**11,693,741**	**12,278,427**	**12,892,347**
Projected operating earnings	**124,785**	**551,848**	**616,463**	**667,533**	**231,536**

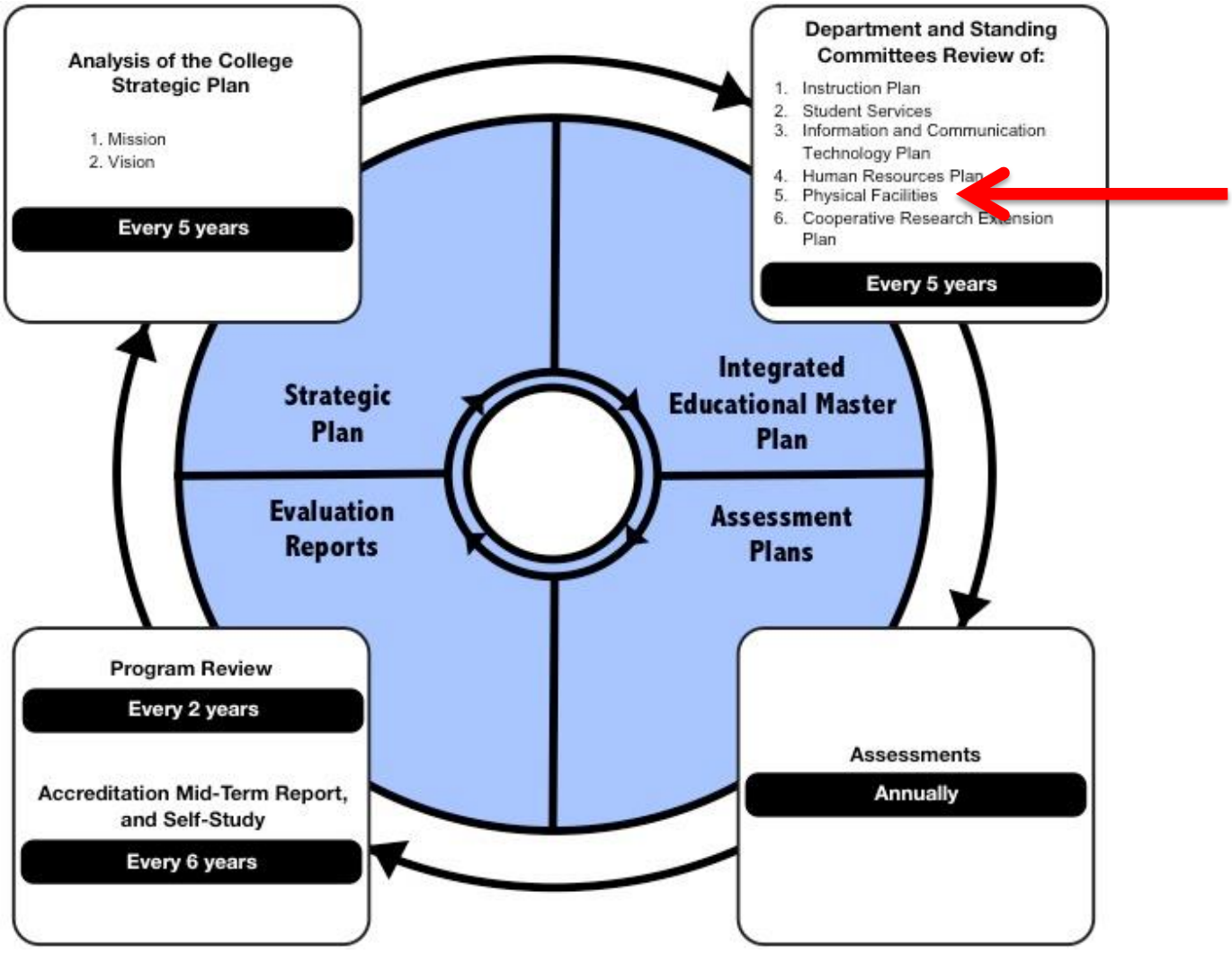
3 Space Utilization and Facilities Master Plan Study - Link to the Integrated Educational Master Plan and other COM-FSM reports

The outcomes of this Facilities Study will be used as a basis for energy conservation programs, remodelling of existing buildings or replacement of buildings as well as future financial forecasting.

These will be implemented through the Physical Facilities Plan (see red arrow on the diagram below copied from the IEMP Report) - one component of the Integrated Educational Master Plan.

Through the Accrediting Commission for Community and Junior Colleges (ACCJC) reviews for the Western Association of Schools and Colleges (WASC) it has been stated that there is a need to address the following recommendation:

Recommendation 6: Physical Resources "To fully meet this standard the college must develop a Facilities Master Plan that reflects the institution's long term educational goals and plans and is linked to an identified, reliable and ongoing funding source that supports the total cost of ownership.(IIIB.2.a)"



The Assessment of COM-FSM's 2006 – 2011 Strategic Plan, a report submitted to President Joseph M. Daisy, EdD by Sandy Pond Associates outlines key strategic goals and objectives.This Facilities Study addresses some of these points as outlined in the table below:

Strategic goal 3: Create an adequate, healthy and functional learning and working environment

Objectives	Strategies	How this is addressed in the Facilities Study and/or implemented by COM-FSM
3A: Provide for adequate facilities to support a learning community	3A1: Complete and implement the college's physical Master Plan in consultation with the FSM's Project Management Unit	COM-FSM on adoption of this Space Utilization and Facilities Master Plan Study
	3A1a: Include accessibility issues in all design considerations	Addressed in Part 2 – Common Campus Design Principles (6.4.2)
	3A1b: Include efficient use of power in all design considerations	Addressed in Part 2 – Common Campus Design Principles
	3A1c: Recognizes the history and culture of Micronesia in design and construction of facilities	Addressed in Part 2 – Common Campus Design Principles
	3A2: Develop and implement a landscape place for each campus that promotes a learning environment	Addressed in Part 2 – Common Campus Design Principles
3B: Provide for maintenance and upkeep of grounds, facilities, and equipment	3B1: Develop and implement a facilities and equipment maintenance program for the college	COM-FSM Facilities Maintenance Staff informed by a maintenance plan
	3B2: Assess and improve existing facilities accessibility	Reviewed by building in the specific campus Master Plan reports – Part 3
	3B3: Ensure college facilities and grounds are clean and conducive to learning	COM-FSM Facilities Maintenance Staff supported by the common design principles
3C: Provide for a safe, secure and effective college environment	3C1: Development and implement internal security systems for each campus	COM-FSM Facilities Maintenance Staff supported by the common design principles

	3C2: Evaluate and improve facilities and grounds from a safety and security standpoint	Safety issues reviewed as part of the spatial review and the highest priority project item
	3C3: Develop and enforce policy on facilities use and management 3C4: Develop and implement infrastructure, security and transportation standard operating procedures for all campuses	COM-FSM Facilities Maintenance Staff COM-FSM Facilities Maintenance Staff

Strategic goal 6: Ensure sufficient and well-managed fiscal resources that maintain financial stability

Objectives	Strategies	How this is addressed in the Facilities Study and/or implemented by COM-FSM
6A: Enhance new and existing revenue resources to promote growth and increase cost effectiveness	6A1: Redefine college budgeting strategies for the efficient use of resources and delivery of quality programs & services 6A2: Communicate the needs of the college effectively in support of capital campaigns 6A3: Enhance college alumni programs and scholarship development 6A4: Promote strategies that ensure the effective and efficient use of resources through reconciliation of accounts and tracking of performance against expenditures	COM-FSM supported by the Energy and Condition Assessment COM-FSM supported by the cost analysis and maintenance replacement program COM-FSM COM-FSM
6B: Diversify resources of the College	6B1: Establish and secure other funding relationships with other government agencies, foundations, grant sources 6B2: Formalize and strengthen the alumni association and funding activities	COM-FSM COM-FSM

6C: Budgeting and resource allocation	6C1: implement a budgeting process that links resource allocation with the college's strategic and short term planning	COM-FSM
	6C2: Establish long and short term institutional priorities to provide broad guidelines for budget allocations	COM-FSM
	6C3: Ensure that budget allocation are adequate to meet program and project needs	COM-FSM
6D: Develop and implement college sustainability plans that will lead to the careful stewardship of natural and man-made resources, saving of revenue, and enhancement of the college experience; serves as a model for the nation	6D1: Develop and utilize alternative sources of energy	COM-FSM informed by the energy review
	6D2: Implement best practices for energy conservation	Best practice guidance addressed in Part 2 – Common Campus Design Principles
	6D3: Develop college housing for off-island faculty	COM-FSM
	6D4: Develop incentives to bring back FSM citizens working and living abroad to work for the college	COM-FSM
	6D5: Ensure effective use of external funding through institutionalization of proven programs and services	COM-FSM

4 Facilities Masterplan Process

Beca International Consultants Ltd. were commissioned in May 2013 to prepare a Space Utilization and Facilities Master Plan Study (also referred to as the Facilities Study) for the College of Micronesia located across six campuses in the Federated States of Micronesia (COM-FSM). This study will inform the College's Facilities Master Plan. The steps in this study involved the establishment of a Project Control Group (PCG) with representatives from COM-FSM, Sandy Pond Associates and Beca International Ltd (Beca). Questionnaires and Requests for Information were prepared to capture existing information for each campus including building and site plans, energy usage data and any known campus and facilities issues. This was followed by site visits undertaken in June/July and August/ September to each of the campuses for the condition assessment and the spatial review by Beca technical staff. Site visits to each campus were undertaken separately by Sandy Pond Associates. The chapters within this study were developed with reviews by the PCG at key milestones.

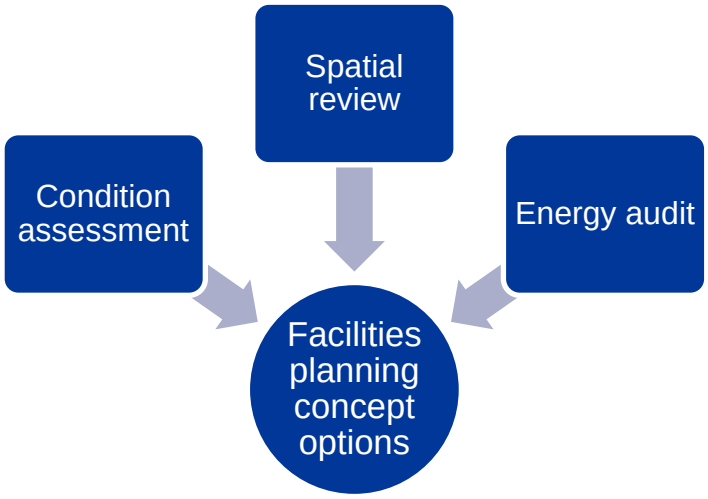
As outlined in the Determination of Future Space Needs in the Integrated Educational Master Plan:

"The Facilities Master Plan will provide a comprehensive review that evaluates and prioritizes the necessary facility improvements that respond to the college's forward strategic direction and links to the *Integrated Educational Master Plan.* This direction is outlined in the *COM-FSM Quality, Sustainability and Success: A framework for Planning and Action*, April 2012 and the *Facility and Campus Environment Plan*, January 2011 with goals being to:

- Increase rigor in decision making regarding new facilities construction
- Ensure adequate maintenance of college facilities
- Provide grounds and campus environments conducive to learning.

4.1 Work Streams

The following three work streams provided input into the development of the Space Utilization and Facilities Master Plan Study:



The output from each of these work streams informed the Facilities Study concept process which reviewed options for site development with the Project Control Group. Following the selection of the

preferred option a series of campus specific projects were identified, costed and programmed. A summary of this for each campus is provided in the respective Part 3 detailed campus reports.

The general tasks undertaken in each of the work streams are summarised on the next page along with their location in the Space Utilization and Facilities Master Plan Study.

Spatial Review

- Educational assessment component - classroom utilization study (Part 2 - Chapter 6)
- Spatial analysis following site visit (Part 3 - specific campus reports)
- Focus group input (Part 3 - specific campus reports)
- Common campus design principles (Part 2 - Chapter 7)

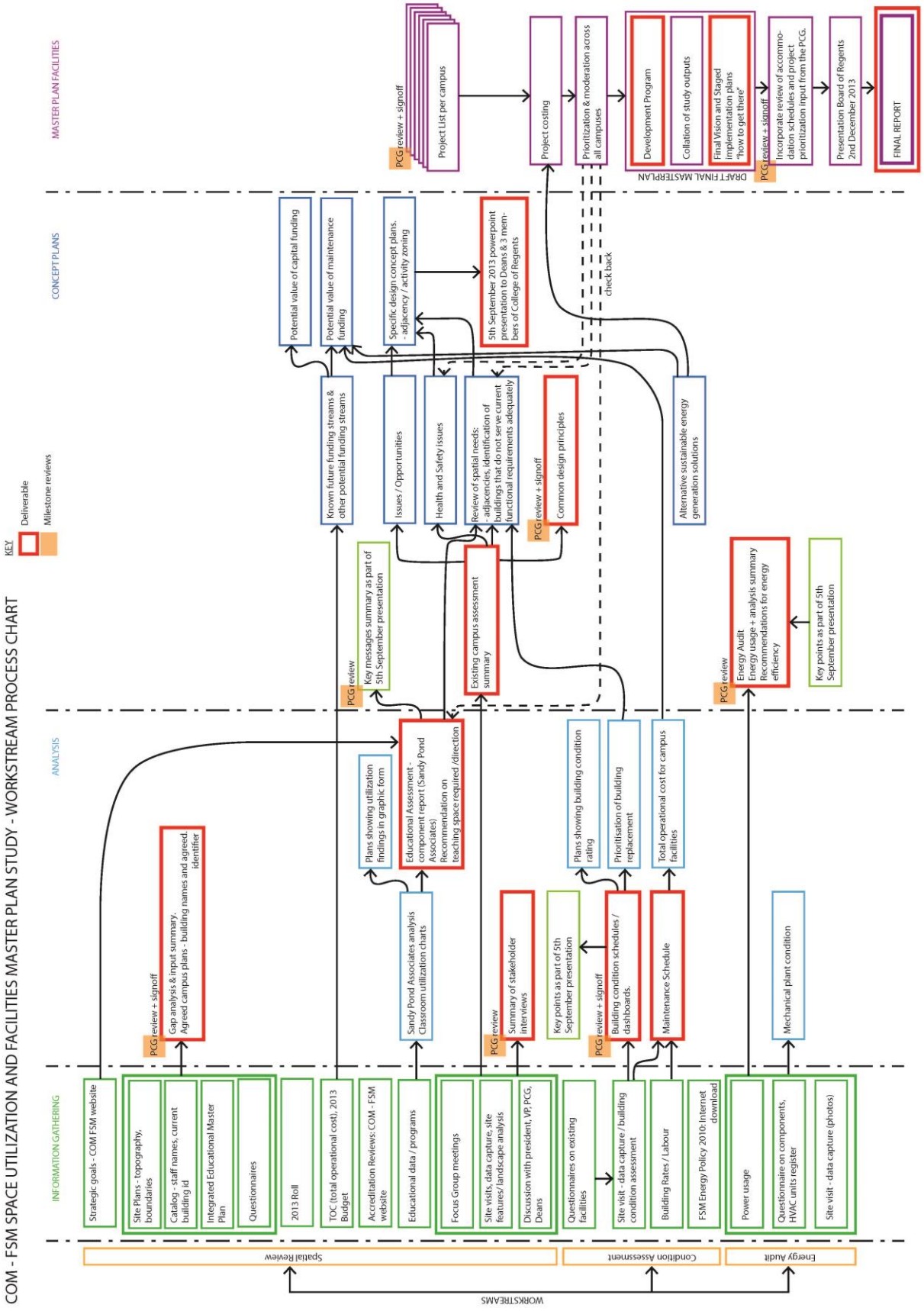
Condition assessment

- On site review of existing buildings and infrastructure
- Maintenance plan
- Both in Part 2 - Chapter 8 and Part 3 - specific campus reports

Energy Audit

- Review combining site observations and supplied energy use data
- Both in Part 2 - Chapter 8 and Part 3 - specific campus reports

A series of feedback loops, deliverables and milestone reviews were completed through the development of the COM-FSM Space Utilization and Facilities Master Plan Study. These are captured in the following methodology diagram.


COM - FSM SPACE UTILIZATION AND FACILITIES MASTER PLAN STUDY - WORKSTREAM PROCESS CHART
KEY
Deliverable
Milestone reviews
INFORMATION GATHERING
ANALYSIS
CONCEPT PLANS
MASTER PLAN FACILITIES
WORKSTREAMS
Spatial Review
Condition Assessment
Energy Audit
Strategic goals - COM FSM website
Site Plans - topography, boundaries
Catalog - staff names, current building id
Integrated Educational Master Plan
Questionnaires
2013 Roll
TOC (total operational cost), 2013 Budget
Accreditation Reviews: COM - FSM website
Educational data / programs
Focus Group meetings
Site visits, data capture, site features/ landscape analysis
Discussion with president, VP, PCG, Deans
Questionnaires on existing facilities
Site visit - data capture / building condition assessment
Building Rates / Labour
FSM Energy Policy 2010; Internet download
Power usage
Questionnaire on components, HVAC units register
Site visit - data capture (photos)
PCG review + signoff
Gap analysis & input summary.
Agreed campus plans - building names and agreed. identifier
Sandy Pond Associates analysis
Classroom utilization charts
Plans showing utilization findings in graphic form
Educational Assessment - component report (Sandy Pond Associates)
Recommendation on teaching space required /direction
PCG review
Summary of stakeholder interviews
Key points as part of 5th September presentation
PCG review + signoff
Building condition schedules / dashboards.
Maintenance Schedule
Plans showing building condition rating
Prioritisation of building replacement
Total operational cost for campus facilities
Mechanical plant condition
PCG review
Key messages summary as part of 5th September presentation
Existing campus assessment summary
PCG review + signoff
Common design principles
Known future funding streams & other potential funding streams
Issues / Opportunities
Health and Safety issues
Review of spatial needs:
- adjacencies, identification of buildings that do not serve current functional requirements adequately
Potential value of capital funding
Potential value of maintenance funding
Specific design concept plans.
- adjacency / activity zoning
5th September 2013 powerpoint presentation to Deans & 3 members of College of Regents
Alternative sustainable energy generation solutions
PCG review
Energy Audit
Energy usage + analysis summary
Recommendations for energy efficiency
Key points as part of 5th September presentation
PCG review + signoff
Project List per campus
Project costing
Prioritization & moderation across all campuses
check back
DRAFT FINAL MASTERPLAN
Development Program
Collation of study outputs
Final Vision and Staged implementation plans "how to get there"
PCG review + signoff
Incorporate review of accommodation schedules and project prioritization input from the PCG.
Presentation Board of Regents 2nd December 2013
FINAL REPORT

5 Gap Analysis and Input Summary

A Gap Analysis and Input Summary was prepared in Phase 1 of the study, the Information Gathering and Analysis phase for review by the Project Control Group.

The purpose of the gap analysis process was to identify the level of existing information available, information gaps and further information required. The Gap Analysis and Input Summary was issued on 5th August 2013 and approved with review comments from the PCG on the 17th October 2013.

The Gap Analysis and Input summary is contained in Appendix A.

Sandy Pond Associates

6 Summary of Classroom Utilization Study

6.1 Analysis of Classroom Utilization Rates

Section I deals primarily with “institutional capacity” versus “need” to assess the utilization of classroom space.

A. Five Year Trend Analysis Methodology

The Five Year Trend Analysis uses concepts common to the American Association of Collegiate Registrars and Admissions Officers (AACRAO). Reference is made to the definitive work by C. James Quann and Associates, Admissions, Academic Records, and Registrar Services (San Francisco: Jossey-Bass, 1979).

The Classroom Utilization Study presents a five (5) year trend analysis of space utilization across the institution. Space utilization must account for maximum capacities. The enrollment measure used is headcount rather than full time equivalents (FTEs)[6] because each student (no matter what proportion of an accounting FTE he or she represents) must have space in a class. Fall enrollments are used because they are usually higher than spring enrollments and consequently a better measure of capacity.

Typical measures of classroom utilization take into account scheduling during normal teaching hours (example Monday through Friday 08:00 to 17:00 hours). This analysis does make use of evening classroom use, which (based upon the examination of COM-FSM’s published class schedules) does not appear to be significant. Normally, classrooms lie vacant or are given over to other uses during these times. For utilization purposes, this represents excess capacity that can be pressed into service during times of high enrollment. In the five year study period there is no evidence of a current or historic need for such use.

During the period of the study 81 rooms were scheduled for the conduct of classes. Some were used only once or twice. Some are no longer in use. It is understood that in 2013, as in other previous years, some rooms may have come into service or gone out of service. Classroom utilization charts for each classroom in the study are provided in Appendix B.

The corresponding data tables for each year are in Appendix C.

B. Classroom Utilization as a Function of Capacity

Three (3) measures are used in this study to examine classroom capacity:

distribution by utilization classification
longitudinal utilization rate
distribution and central tendencies of classroom utilization

Within these parameters, classrooms that are in use 75% (or more) of scheduled class times is deemed “high” (alternatively “at capacity”). Classroom use between 66.7% and 74.9% is considered “moderate use.” Classrooms between 50% and 66.6% are “low use” and those below 50% are considered “underutilized.”

[6] FTEs are, however, used in this study for enrollment analyses and projections as a point of comparison for headcount data.

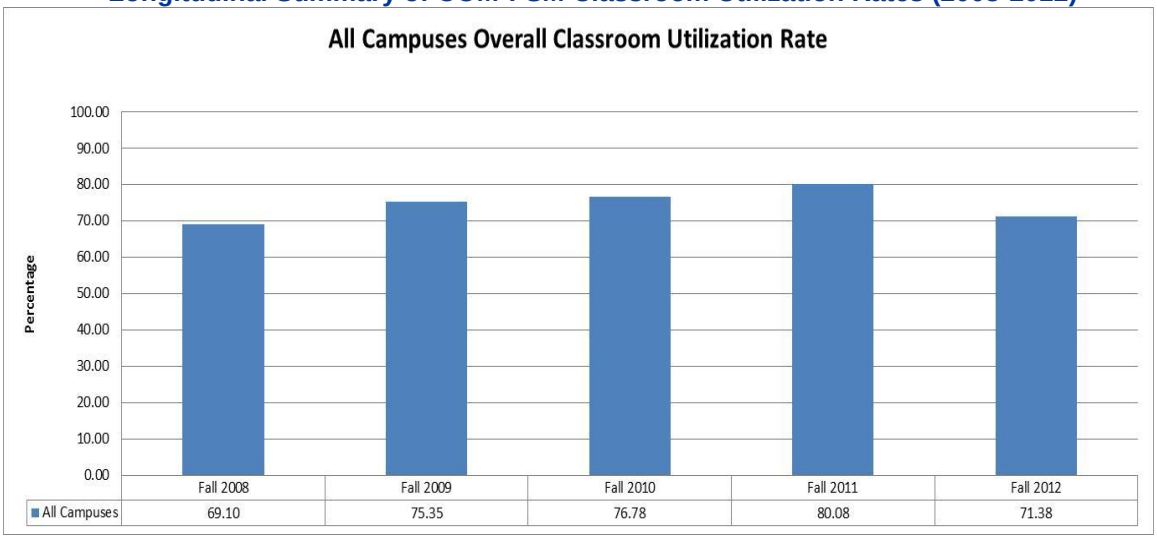
Utilization Classification Method: Table I.B.1 illustrates the pattern of classroom use during five year period of the study using the utilization classification method. One major observation is that over time approximately 45% of classrooms have fallen into the "low" or "underutilized" categories, while 35% have been utilized "at capacity." **This utilization classification analysis suggests that COM-FSM as a six-campus system has adequate classroom capacity** for its regular college programs given their historic enrollment and classroom use patterns.

CHART I.B.1
Summary COM-FSM Classroom Utilization Classification (2008-2012)

Utilization Levels	All Campuses
high (>75%)	35%
moderate (>66%)	21%
low (>50%)	30%
underutilized (<=50%)	15%
Total	**100%**
Total Number of Rooms	**81**

Longitudinal Utilization Method: Analysis of cumulative classroom use employing **longitudinal utilization rate method (illustrated in Chart I.B.2) supports a conclusion of a "moderate-to-high" capacity usage** – ranging from 69%-80% between 2008 and 2012 – with a peak utilization rate in 2011[7].

CHART I.B.2
Longitudinal Summary of COM-FSM Classroom Utilization Rates (2008-2012)



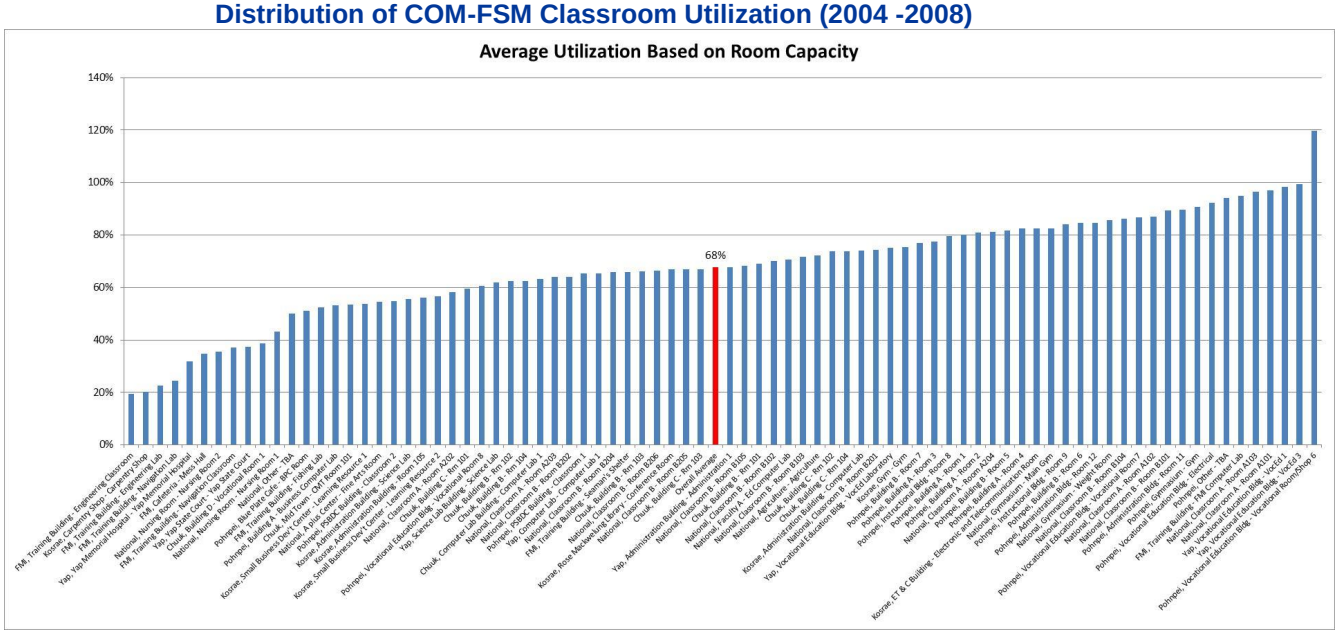
[7] Subsequent data available in Fall 2013 suggests a continued declining utilization rate, affirming 2011 as a peak, rather than an outlier year.

Distribution and Central Tendency Method (see Chart I.B.3 – next page): When viewed collectively as a histogram, the frequency distribution of classroom utilization across COM-FSM's six campuses over a five year period yields both average and mean utilization rates at 68% – again representing an overall **"moderate-to-high" utilization rate of classroom space across the six-campus system using the Distribution and Central Tendency Method.**

This presentation format also allows a "quick glance reference" for classroom-by-classroom comparison of utilization rates across the system campuses.

Finding #1: the six campus system stands in the "high moderate" range (74.99% utilization upper limit) within the five year study period. This represents a near optimal positioning in terms of effective use of existing capacity while allowing adequate room for modest expansion over a ten year planning horizon.

CHART I.B.3
Distribution of COM-FSM Classroom Utilization (2004 -2008)



C. Enrollment Trends and Projections

Over time classroom utilization is driven primarily by institutional enrollment. The Classroom Utilization analysis method in Section B: Classroom Utilization as a Function of Capacity represents current and historic use. Projections of large-scale enrollment trends into the future to inform planning decisions can be accomplished through enrollment trend analysis.

The Enrollment Projection Methodology uses a ten-year basis (2004-2013) including both headcount and FTE data to create a trendline. Trendline projection models use a "best fit" analysis (see Chart I.C.1 on the next page) and show a very limited rate of total enrollment growth through AY 2023-24.

COM-FSM planning projections call for flat growth through AY 2015-16, followed by 2% growth through AY 2017-18[8]. National demographic projections tend to support the "no growth" scenario[9]. Therefore the "best fit" trendline analysis appears to represent the upper limit for facilities' needs during the ten-year projection horizon.

In this model enrollment throughout the six campus system will stay within the historic usage range throughout the ten (10) year projection window, not achieving the Fall 2011 high of 2913 headcount students until 2023. Indeed, a return to 2011 levels alone will require a 19% increase in enrollment. This suggests that the classroom utilization rate of 80.8% shown in the longitudinal analysis represented in Chart I.B.2 may represent the "high water mark" of overall classroom utilization through 2023.

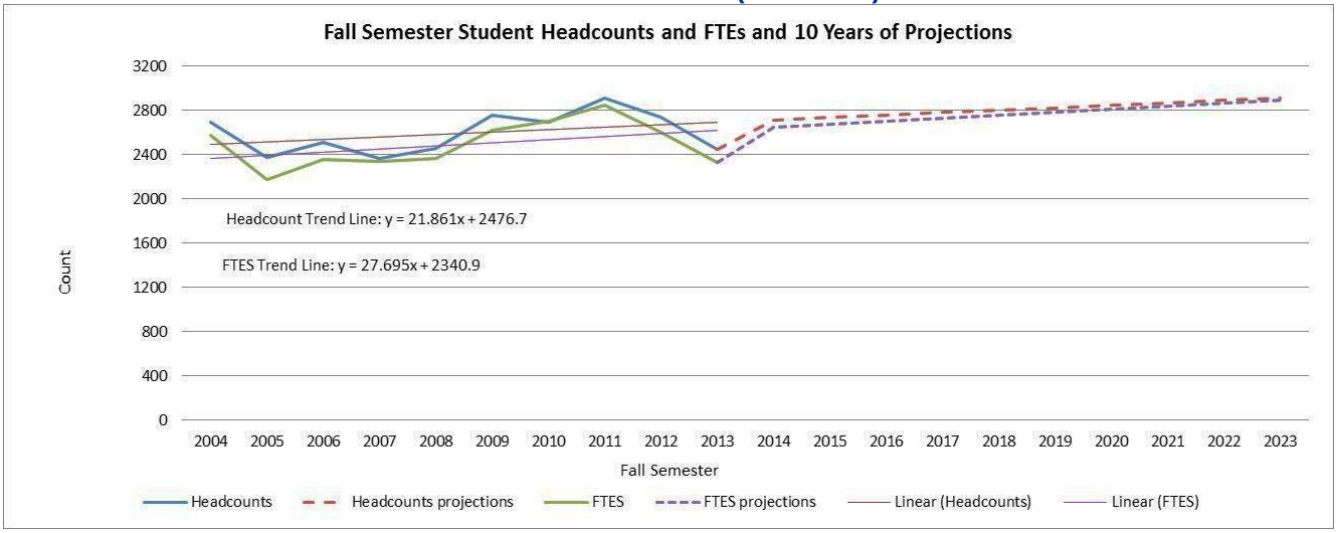
FINDING #2: Overall classroom need as measured by projected enrollment changes throughout the COM-FSM six-campus system is relatively flat within the ten year horizon (2014-2023). This suggests little need to increase overall institutional classroom capacity on the basis of any foreseeable enrollment trend.

FINDING #3: Across the 6 campus system COM-FSM has adequate overall classroom capacity through 2023 given its historic enrollment and classroom use patterns.

3.1 Consideration should also be given as to how facilities on less fully utilized campuses could be used to provide a "relief valve" for selected programs and student populations on more heavily utilized campuses. This is especially true where two campuses are located on one island and additional capacity is needed (see 6.1.D, below, for discussion of Pohnpei and Yap).

TABLE I.C.1

COM-FSM Fall Enrollment Trends (2004-2023)



Semester	Fall 2004	Fall 2005	Fall 2006	Fall 2007	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023
Headcount	2696	2379	2513	2366	2455	2758	2699	2913	2744	2446	2717	2739	2761	2783	2805	2826	2848	2870	2892	2914
FTE	2577	2176	2357	2342	2367	2626	2707	2845	2602	2332	2775	2815	2855	2895	2367	2626	2707	2845	2602	2332

[8] College of Micronesia-FSM, *Five-Year Financial Plan Summary* (August , 2012)

[9] College of Micronesia-FSM, *Factbook* (2013)

D. Campus-by-Campus Observations

Findings across the six-campus system may not be consistent from campus to campus, however. This section will provide a high-level overview of campus-to-campus variations from the broader norm. More detailed analysis of each campus will be provided in the appropriate Campus Volumes, Part 3 – Detailed Reports

Analysis by the Utilization Classification methodology (Table I.D.1) illustrates the distribution throughout campuses and shows the important variations which merit special consideration at the Pohnpei, Chu'uk, and FMI campuses.

Table I.D.1
Distribution of COM-FSM Classroom Use by Utilization Classification (2008-2012)

Utilization Levels	Chu'uk	FMI	Kosrae	National	Pohnpei	Yap	All Campuses
high (>75%)	0%	13%	11%	33%	76%	25%	35%
moderate (>66%)	36%	0%	33%	33%	0%	25%	21%
low (>50%)	55%	25%	44%	21%	24%	25%	30%
underutilized (<=50%)	9%	63%	11%	13%	0%	25%	15%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Total Number of Rooms	**11**	**8**	**9**	**24**	**21**	**8**	**81**

A campus-by-campus enrollment analysis yields trends at the National campus and the State campus at Pohnpei which suggest slightly steeper growth trends than the six-campus system, but they are still within the historic usage range projections. The State campuses at Kosrae and Yap fall within the system's historic range through the next ten (10) years. Enrollment trends for the State campus at Chu'uk and the FMI campus show no projections for overall enrollment growth.

The Pohnpei State Campus shows very high utilization rates (76% in the "high utilization" range and 0% in the "underutilized" range -- indicating capacity use) which strain current program use and limit capacity for future growth. "Best fit" trendline analysis of enrollment suggests that the Pohnpei campus may return to 2011 enrollment levels as early as 2017.

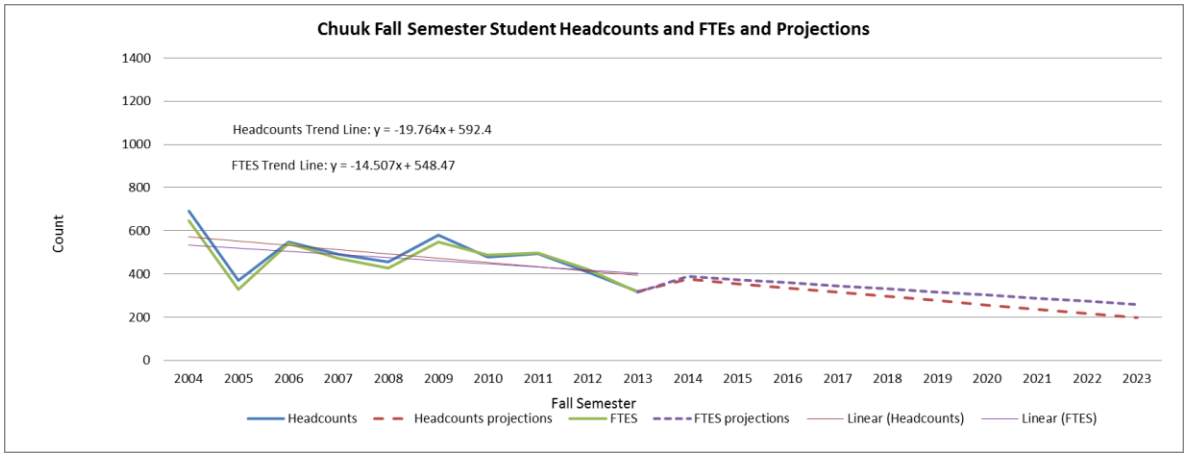
Given the Pohnpei State Campus' role in vocational education, which the board has prioritized in its Two-Year Action Agenda, special consideration should be given to the capacity of the Pohnpei Campus facilities to handle even modest future growth. As a measure of expediency while longer term solutions are explored, it may be possible for certain support courses to be offered at the National Campus.

Table I.D.2
Pohnpei Campus Fall Enrollment Trends (2004–2023)

Historic Enrollment										
Semester	Fall 2004	Fall 2005	Fall 2006	Fall 2007	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
Headcount	567	583	620	608	642	712	742	845	771	672
FTE	571	559	553	583	620	669	721	770	671	586
Projected Enrollment										
Semester	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023
Headcount	805	828	852	875	898	922	945	968	992	1015
FTE	713	728	743	758	773	788	803	818	833	848

The Chu'uk Campus has experienced less robust enrollment during the study period – likely in-part due to on-island competition from Caroline College and Pastoral Institute (an offshoot campus of Hawaii-based Chaminade College). Given the lease status of the Chu'uk facility, careful thought should be given to the size and scope of projected new or renovated construction. The Chu'uk Campus has great capacity serve as a resource for the six-campus system during periods of enrollment growth.

Chart I.D.3
Chu'uk Campus Fall Enrollment Projections (2004-2023)



By the nature of its programs, which tend to be short term and intensive, the FMI Campus is an outlier for utilization analysis (Table I.D.1). The opportunity represented by this campus' capacity for offering specialized technical programs, developing specialized immersion programs, and hosting visiting scientific and academic interests ought to be more fully developed and explored.

Special Considerations – Vocational Education

The high utilization rates on the Pohnpei campus observed in Table I.D.1 and Chart I.B.3 are driven by the demands of vocational education – especially the need for dedicated space. Given the Pohnpei State Campus' role in vocational education, which the board has prioritized in its Two-Year Action Agenda, special consideration should be given to the capacity of the Pohnpei campus facilities to handle even modest future growth.

Additionally, the Yap State Campus shows evidence of high utilization for its vocational education spaces.

FINDING #4 Given the Board of Regents Two-Year Action Agenda's emphasis on vocational programming, dedicated classroom space for Vocational Education should receive priority attention in facilities planning.

6.2 Summary

The six campus system stands in the "high moderate" range within the five year study period. This represents a near optimal positioning in terms of effective use of existing capacity while allowing adequate room for modest expansion over a ten year planning horizon.

Utilization Classification Analysis suggests that COM-FSM as a six-campus system has adequate classroom capacity for its regular college programs given their historic enrollment and classroom use patterns.

Longitudinal Utilization Analysis supports a conclusion of a "moderate-to-high" capacity usage with a peak utilization rate in 2011.

Distribution and Central Tendency Analysis describes a "moderate" utilization rate of classroom space across the six-campus system.

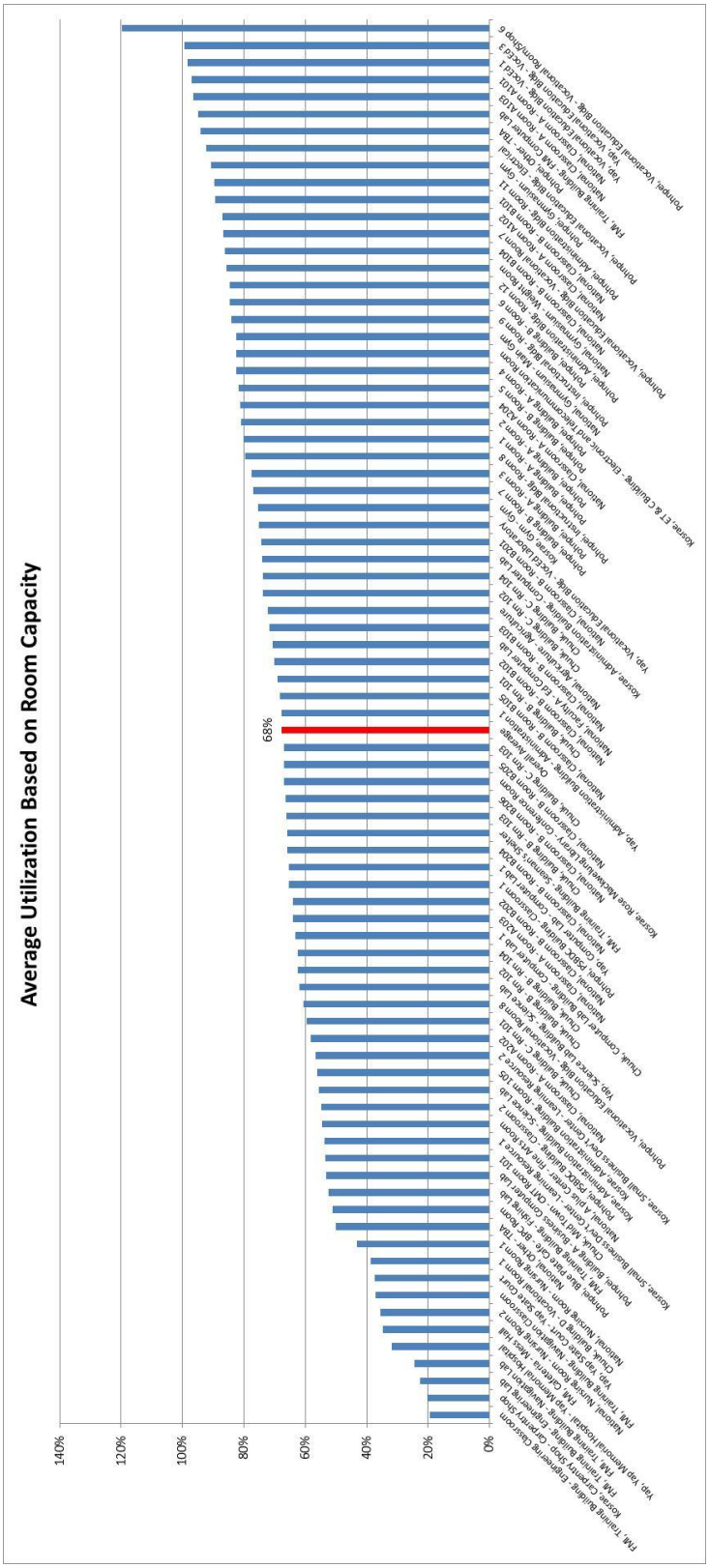
Classroom utilization rates at COM-FSM show a relatively high inelasticity compared to enrollment within the study period – a product of moderate-to-high capacity. Since the range of classroom utilization in the five (5) year study lies within the ten (10) year enrollment range, capacity can be projected forward for ten (10) years for planning purposes with a relatively high degree of confidence.

Overall classroom need as measured by projected enrollment changes throughout the COM-FSM six-campus system is relatively flat within the ten year horizon (2014-2023). This suggests little need to increase overall institutional classroom capacity on the basis of any foreseeable enrollment trend. Across the 6 campus system COM-FSM has adequate overall classroom capacity through 2023 given its historic enrollment and classroom use patterns.

Given the Board of Regents Two-Year Action Agenda's emphasis on vocational programming, dedicated classroom space for Vocational Education should receive priority attention in facilities planning.

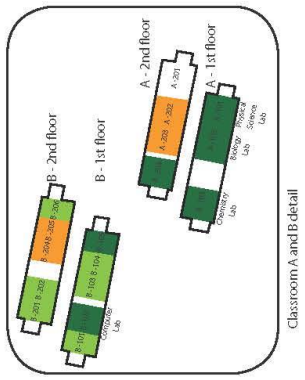
Findings across the six-campus system show campus to campus variation around the six-campus system norms. The National, Kosrae, and Yap campus follow the broad system trends. The Pohnpei, Chu'uk, and FMI campuses merit special consideration due to their unique circumstances. Classroom utilization on each campus is summarised in the following plans and is further discussed in the respective campus Part 3 – Detailed Report.

CHART I.B.3
Distribution of COM-FSM Classroom Utilization (2004 -2008)



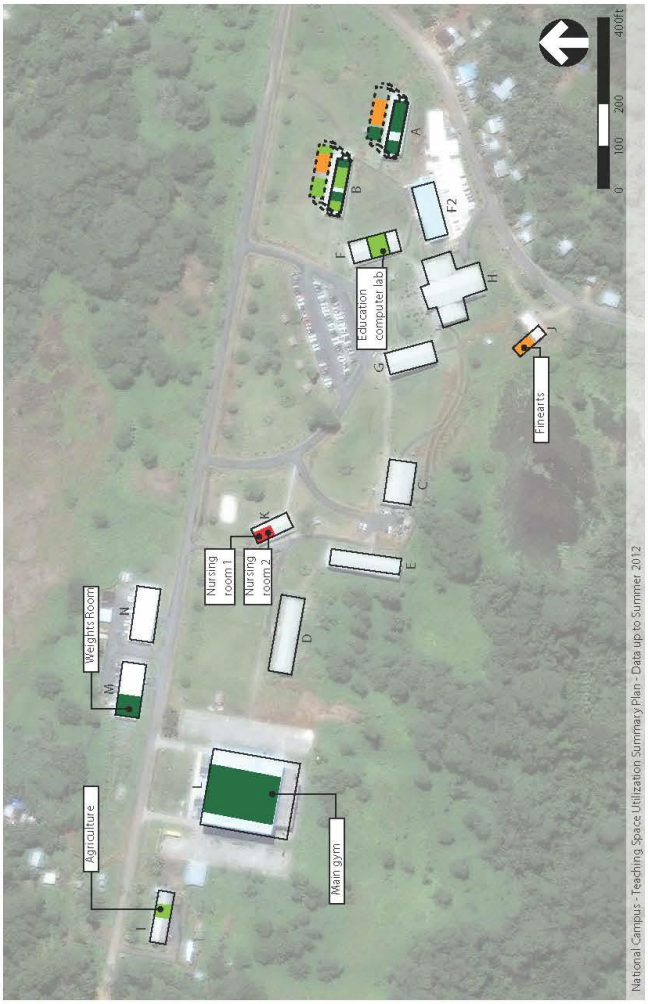
6.3 Classroom Utilization Plans

National Campus



NOTE:
This plan shows the Sandy Pond utilization assessment in Summer 2012. Nursing teaching spaces have been moved into building J for the start of Fall Semester 2013.

LEGEND
(Average utilization based on room capacities)
- High (> 75%)
- Moderate (>66%)
- Low (>50%)
- Underutilized (≤50%)
- Not timetabled



National Campus - Teaching Space Utilization Summary Plan - Data up to Summer 2012

No.	Building Description
A	Specialized classrooms (Building A)
B	Standard classrooms (Building B)
C	Dining Hall
D	Men's Residence Hall
E	Women's Residence Hall
F	Faculty Offices (old)
F2	Faculty Offices (new)
G	Administration
H	Learning Resources Center and MITC
I	Agriculture
J	A+ Center and Art Classroom
K	Book store, Dispensary, Student Services
L	FSM - China Friendship Sports Center
M	Security, Weights Room, IT Shop
N	Maintenance, CRE, Music Classroom

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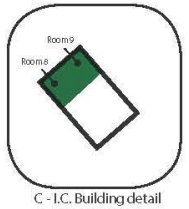
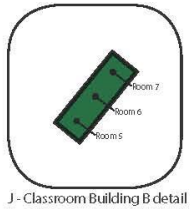
Beca | 1

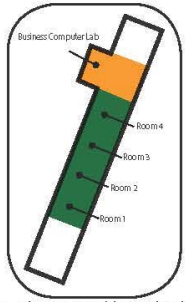
Pohnpei Campus - Teaching Space Utilization Summary Plan - Data up to Summer 2012



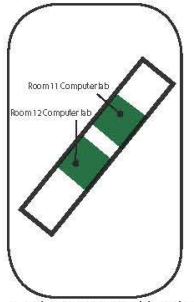
C - I.C. Building detail



J - Classroom Building B detail



D - Classroom Building A detail



A - Administration Building detail

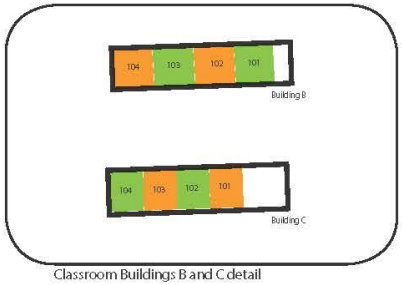
No.	Building Description
A	Administration Building
B	Bookstore
C	I.C. Building/ Electronics classrooms
D	Classroom Building A
E	Electrical Building
F	Carpentry Shop
G	Gymnasium
H	Hotel and Tourism Building
I	IT Shop
J	Classroom Building B

K	Vocational classrooms, TSP, UB, CES
L	Student Services Center
M	Mechanic Shop
N	Land Grant Building
O	PSBDC Building
P	Security Shed
Q	Nahs (removed Fall 2013)
R	Maintenance Building
S	Refridgeration Shop

LEGEND
(Average utilization based on room capacities)

- High (> 75%)
- Moderate (>66%)
- Low (>50%)
- Underutilized (≤50%)
- Not timetabled

Chuuk Campus - Teaching Space Utilization Summary Plan - Data up to Summer 2012



Classroom Buildings B and C detail

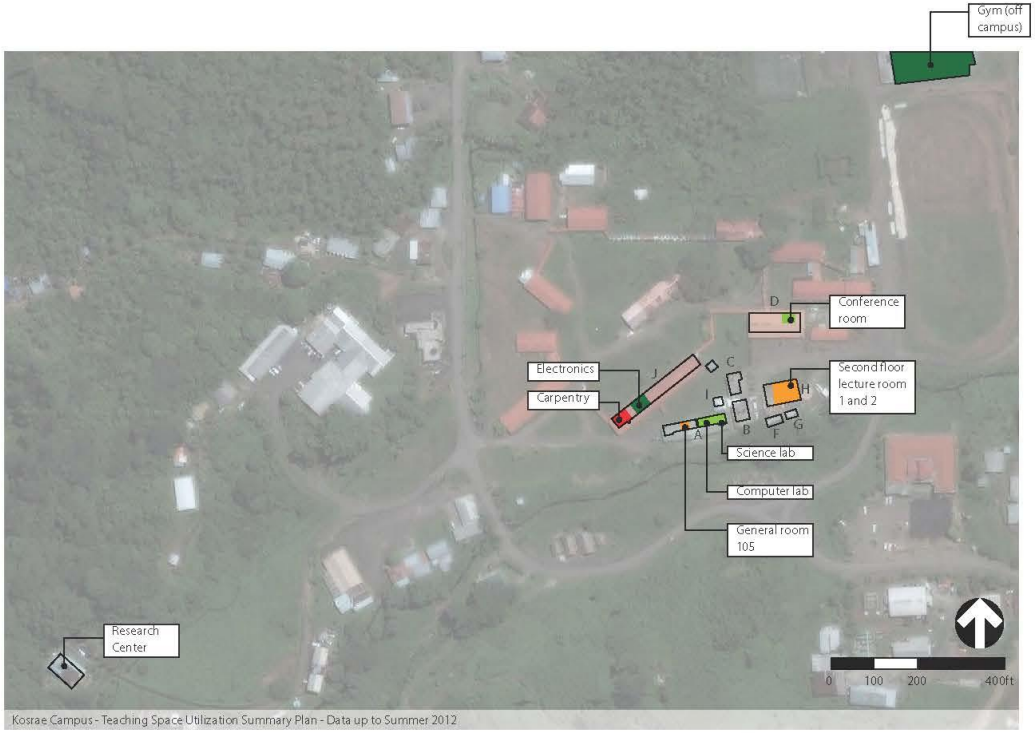
No.	Building Description
A	Administration / Faculty Office
B	Classroom Building B
C	Classroom Building C
D	Campus Dean's Office
E	Restrooms
F	CRE Building
G	Generator House
H	Student Services Building
I	Computer Lab
J	Student Center
K	Learning Resources Center

Off Campus - Building D, Vocational Room 1

- Midtown - CMT Room 101

LEGEND
(Average utilization based on room capacities)

- High (> 75%)
- Moderate (>66%)
- Low (>50%)
- Underutilized (≤50%)
- Not timetabled



Kosrae Campus - Teaching Space Utilization Summary Plan - Data up to Summer 2012

No.	Building Description
A	Administration Building/ Classrooms
B	Land Grant Building
C	Faculty Building
D	Rose Mackwelung Library
F	Maintenance Shop
G	Maintenance Office
H	KSBDC Building
I	Bookstore
J	Learning Resources and Career Development

NOTE:

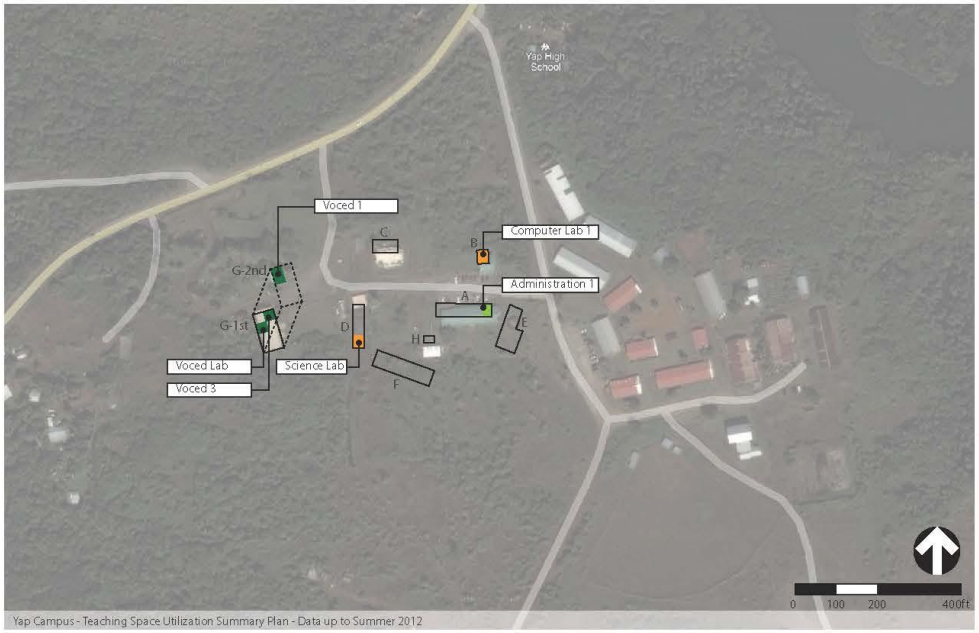
Carpentry shop and electronic classroom in block J from summer 2013 semester.

LEGEND

(Average utilization based on room capacities)

- High (> 75%)
- Moderate (>66%)
- Low (>50%)
- Underutilized (≤50%)
- Not timetabled

Yap Campus



Yap Campus - Teaching Space Utilization Summary Plan - Data up to Summer 2012

No.	Building Description
A	Administration Building
B	Computer Lab
C	CRE Building
D	Science Laboratory
E	Student Center Building
F	Classroom Building
G	Vocational Building
H	Student Open Lounge

LEGEND
(Average utilization based on room capacities)

- High (> 75%)
- Moderate (>66%)
- Low (>50%)
- Underutilized (≤50%)
- Not timetabled

FSM - FMI

No.	Building Description
A	Administration/Student Services and Living Quarters/Mess hall
B	Staff housing
C	Classrooms, Library and Shops
D	Maintenance office

7 Common Campus Design Principles

7.1 Introduction

Design principles are a way of describing the “must have” qualities that a building or campus should have prior to the development of a design brief and accommodation schedule. These are informed from best practice as well as discussions with the client, operators and users. While there will be a range of architectural concept design options that may be developed using these design principles as a framework for design it is anticipated that any option developed could satisfy the high level objectives that are at the core of the design principles.

The following design principles have been generated through observations during site visits to each campus, discussions on site and input from the Project Control Group.

These principles outline the desired future character of the College and their development was also informed by the strategic outcomes and objectives outlined in The College of Micronesia – FSM Strategic Plan 2013-2017draft. (2013, April).
Refer to the http://wiki.comfsm.fm/@api/deki/files/2286/=Strategic-Plan-Draft_6APR13.pdf

The design principles are divided into “common” design principles across all campuses and “specific” design principles providing further guidance for each campus. The specific design principles are included within each campus detailed report - Part 3.

7.2 College of Micronesia Vision and Mission

The Integrated Educational Masterplan (IEMP) 2013 provides a framework by which the College of Micronesia – FSM can attain its vision to:

The College of Micronesia-FSM will assist the citizens of the Federated States of Micronesia to be well-educated, prosperous, globally-connected, accountable, healthy and able to live in harmony with the environment and the world community.

and fulfill the mission of being:

Historically diverse, uniquely Micronesian and globally connected, the College of Micronesia-FSM is a continuously improving and student centered institute of higher education. The college is committed to assisting in the development of the Federated States of Micronesia by providing academic, career and technical educational opportunities for student learning.

This vision and mission reflect the identified values

Extract from the COM-FSM. (2013, April). The College of Micronesia – FSM Strategic Plan 2013-2017 draft. Retrieved from http://wiki.comfsm.fm/@api/deki/files/2286/=Strategic-Plan-Draft_6APR13.pdf

In the IEMP six strategic Institutional Outcomes have helped to inform the Vision for COM-FSM.

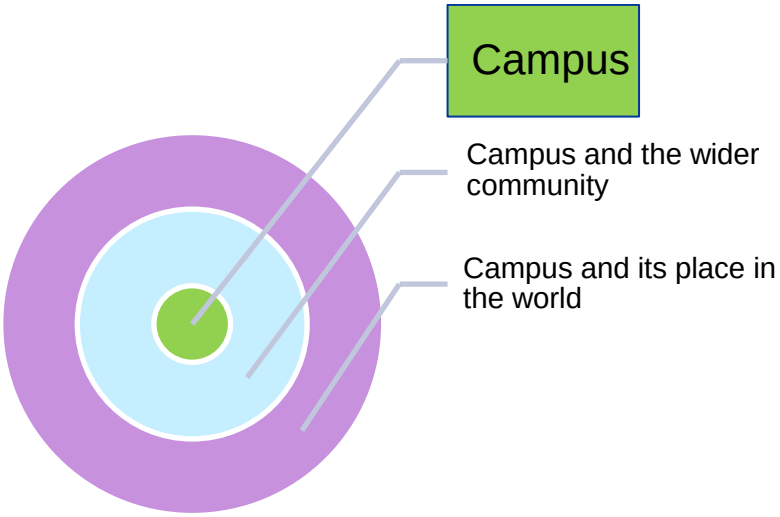
These strategic directions call for COM-FSM to do the following within the next 5 years:

1. Focus on Student Success
2. Emphasize Academic Offerings in Service to National Needs
3. Be financially Sound, Financially Responsible, and Build Resources in Anticipation of Future Needs
4. Invest in and Build a Strong Capacity in Human Capital
5. Be a Learning Organization through Development of a Learning Culture Guided by Learning Leaders
6. Evoke an image of Quality

Design principles are a description of the tangible ways in which the future form and character can be described. As they are overarching they sit under the Vision and above the five year strategic direction statements.

The principles are grouped in three parts: the campus itself, the campus and the surrounding area and finally the campus and the relationship with the world. This reflects being located in Micronesia yet also as outlined in the vision able "*to live in harmony with the environment and the world community"*

7.3 The Campus



7.4 Key Objectives

- **Design buildings and the campus environment to be sustainable and to respond to the climate, topography and setting**
- **Design for buildings to accommodate change of use over time i.e. multipurpose spaces that can be adapted to suit future needs**
- **Create an adequate, healthy and functional learning and working environment considering the function and form of buildings, open space, character and circulation**
- **Consider efficiency in design and selection of materials to minimise the Total Operational Cost**

7.4.1 Site Design

The campus should be designed around:

- Identifying functions that are compatible with each other and group them into types of activity zones.
- The efficient use of infrastructure
- Consider safety and the importance of people on a campus by prioritising pedestrian movement over vehicular movement
- Identifying a variety of spaces for different uses – active/ social zones and quiet zones

7.4.2 The Learning Environment

The zones on campus

- Provide distinctive academic and residential zones to provide separation for students who live on campus
- Provide for a student centred zone where student services, peer counselling and unstructured study can take place
- Provide for quiet study and interactive collaborative study area zones with acoustic separation between both
- Provide a defined zone for traffic circulation and parking on the perimeter of the site enabling the campus to be primarily for pedestrians
- The technology on campus
- Provide opportunities to maximise the use of wi-fi outside of buildings with the provision of seating areas, covered study spaces and including the addition of electronic charging stations
- Locate student areas within coverage of wi-fi zones
- Consider localising cooling to computer areas rather than overall room cooling

7.5 The Character and Feel of the Campus Environment

7.5.1 A campus that reflects its location in Micronesia

- Consider designing buildings that reflect the local vernacular building style acknowledging this can be accomplished using modern building materials.
- Arrange the campus buildings and layout to reflect Micronesian culture including consideration of the central building being the most important function and being taller as well as considering the arrival process onto the campus


7.5.2 A campus that embraces all, accessible to all

- Consider gender equity and cultural background in the design.
  - Provide places for small groups to meet and consider minimising sitting spaces where people have to walk between two groups sitting either side of a walkway.
  - Provide neutral spaces at the edges of main spaces to foster gradual integration of minority groups
- Enable the campus to be used by everybody without restriction due to a disability


7.5.3 A hub for students

- Provide for a student centred activity zone where student services, peer counselling and unstructured study can take place

7.6 The Built Environment

The buildings – both the building forms and the relationship of the building forms to the environment

- Reference vernacular architecture either in building forms or materials but careful that their use does not unreasonably impact on the cost of ownership
- Create positive (not 'leftover) spaces by modifying existing buildings where possible to address / overlook spaces; and by inserting new buildings to help contain spaces that 'bleed' because they are too large or undefined to be appealing
- Where possible relocate building entries to line up with desire lines and main pedestrian axes
- Consider whether the building hierarchy is reflected in the difference in building scale, with most important buildings taking precedence along main axes.
- Use structuring elements such as symmetry and axes to order the building blocks.
- Locate new buildings to reinforce and activate open spaces and circulation routes – enable buildings to be aligned with and overlook pathways
- Locate and design new buildings to edge open spaces within the site, to help make spaces feel like 'places' rather than empty left over zones.

7.7 The Quality of the Interior Environment

Spatial and facility ratios

As a basis for determining the spatial and facility ratios the following appendix was extracted from the Assessment of COM-FSM's 2006-2011 Strategic Plan by Sandy Pond Associates, May13 2012. The table in the appendix formed the basis of discussion during the site visits and any alterations to the table are noted in the comments column.

Appendix B: Enrollment Management - Campus Standards Key Indicators

To ensure equity and quality of services across the six campuses of the college, the following broad guidelines will be used to determine how many students a campus may enrol. Wherever possible, the indicators have been expressed as per student ratios. In order to maintain consistent standards across the college, each campus will be expected to meet these criteria as soon as possible. All enrolment changes require the approval of the President.

The following spreadsheets provide the actual status of each campus and the various indicators and enrolment projections for each campus. The indicator data and projections are to be updated each fall and spring semester.

Indicator	Target ratio per student ratio	Comments
Student/Faculty ratio	1 faculty member for each 17-22 students	This range allows for unexpected vacancies # of full time faculty + part time (credits/12)
Learning resources staff ratio	1 LRC staff member for each 150 students	

LRC volumes capacity	30 volumes per student	Advised this has increased to 40 volumes per student during the development of the Facilities Study
Learning Resources seating capacity	1 seat in the LRC for every 10 students	Advised that goal is 1 seat for every 5 students during the during the development of the Facilities Study. This is unlikely to be able to be met in a dedicated facility so a ratio of 1:10 will be used for planning purposes
Counselors (FAO, OAR & Counseling)	1 counselor of each type for every 250 students	
Student Life Specialists (excluding dorm staff)	1 student life staff member for each 200 students	
Nurse/Health	1 nurse for every 1,400 students	
Administrative staff	1 administrative staff for each 190 students	Depending on the size of the campus
Overall Environment – Power & email access; toilet facilities, ratio of drinking water & building, availability of textbooks and refreshments	Percentage of time electrical power and email access available during all school hours; 1 female toilet for every 30 students & 1 male toilet facility for every 40 students; per cent of buildings with accessible drinking water; a bookstore and campus store or available food source	
Daytime security	1 security guard for every 300 students	This varies by the size and location of the campus and therefore must have some case by case considerations
Classroom capacity	1 classroom per 60 students	Individual class enrollment must not exceed recommended course enrollment guidelines
Maintenance	1 maintenance staff member for each 68 students	Ratio exclude janitorial and ground maintenance
Janitors	1 janitor per 140 students	Not including dorm janitors
IT Technician	1 technician per 300 students with at least 1 IT technician per campus	This currently represents a target for all campuses
Student computers	1 computer available for every 10 students	Includes computer labs, LRC and others

Faculty computers	1 computer for each full time faculty and 1 computer for each part time FTE	Assume dedicated computer and desk

During the site visits to all campuses it was noted that there are a range of spaces for similar functions and campus size. This can be attributed to using the space that is currently available. Looking to the future development the following spatial target for various functions should be used as a guide.

Function	Spatial target	Comments
Information Technology	Office, workstation to repair computers, storage of computers, secure server room	Chuuk campus has a good server room and office configuration
Dean's office	Desk plus seating area for 2 visitors	Adjacent to conference room
Administration	Counter, workstation area, waiting area, printer area and file storage	
Bookstore	Fiscal offices included or adjacent, bookstore shelving, 2 desks (for state campuses), counter area for students	Chuuk campus has a good bookstore / fiscal office configuration
Faculty offices	Room for 4-5 desks, connection to a small meeting room for one to one discussions, access to storage	National and Chuuk campus are a good example of faculty office layout and size
Learning Resource Center	Walk through the computer lab lobby to access the library area. Couches, tables and study carrels	Kosrae has a good computer lab/ library configuration

7.7.1 Air

- Provide air, which is as fresh and clean as possible to each classroom and workspace by:
- Specifying building and furniture, materials/products with the least possible contaminants emission (e.g. formaldehyde, lead releasing products etc to be avoided).
- Providing ventilation with air change rates which are higher than the minimum rates required by utilized design codes. Where practical preference will be given to natural ventilation solutions. Control of ventilation should be available to the individual users of each space.

7.7.2 Light (health and safety)

- Provide full-spectrum light to each space which is suitable for all users and activities both day and night by:
- Providing natural light to all workspaces with fixed or adjustable glare control devices. Provide glazing to allow full-spectrum natural light to penetrate all classrooms and workspaces, where appropriate.
- Providing glare free artificial lighting, using full-spectrum fluorescent or LED lamps with a constant lighting level between 350-450 lux.

7.7.3 Temperature

- Provide a comfortable temperature to all occupied areas by:
- Using building materials and design solutions which prevent the sun from overheating the classrooms and workspaces.
- Providing supplementary cooling systems in those areas where a constant cool temperature is required for equipment or to suit the function of the room – set point at 25 degrees Celsius.
- Optimising the use of natural ventilation to provide comfort conditions, e.g. breezeways.

7.7.4 Sound

- Provide spaces which are acoustically optimum for their function and which minimise sound interference and noise pollution from within the complex by:
- Specifying surface finishes which produce appropriate levels of reverberation for each function within the complex (no echoes).
- Isolating noisy equipment from teaching and workspaces and control noise at source.
- Providing a series of ‘quiet’ rooms and areas for focussed study within the campus

7.8 The Landscape Environment

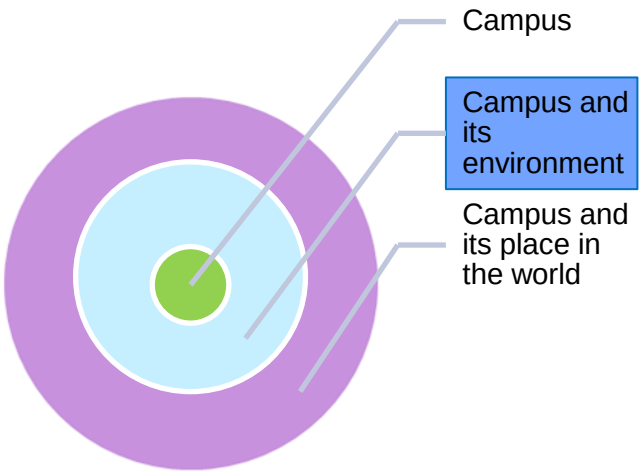
7.8.1 Variety of spaces offering different activity use – active, social and quiet zones

- Design a logical hierarchy of open spaces that clearly supports visitor orientation within the campus as well as staff and students
- Design a range of spaces of different sizes and character, to provide choice and interest. Relate open spaces to view shafts and key points of interest within the campus
- Spaces and their connecting routes should be fully accessible and with high amenity, including shelter where there is high rainfall, seating areas, landscaping and signage, and a consistent palette of furniture and lighting.
- Partially cover / enclose spaces / pedestrian paths that are exposed to weather and wind, for pedestrian amenity
- Pathways to be wide enough for 3 people to walk alongside each other

7.8.2 The role of trees and landscaping on campus

- Take opportunities to feature local plants i.e. consider using flowering shrubs to add colour and variety, medicinal plants, culturally important or fruiting trees. A campus specific landscape palette has been developed for the Yap Campus (Refer to Part 3 Report) – this template could be used for other campuses and modified to suit the species within each state.
- Use shade trees to create communal outdoor meeting places in open spaces
- Deeper rooting trees to be selected for campus areas with resistance to high winds as these are planted outside of the underground services zones

7.9 The Campus and its Relationship to the Surrounding Area



7.10 Key Objectives

To be a Community College within each State providing for the needs of the wider community and a place of ongoing educational opportunities

7.11 The Physical Relationship Between the Campus and the Wider Community

7.11.1 Interface with the community

- Provide amenities that can be used and accessed by the wider community - potential for night classes, dispensary, learning resource center access and locate these on the edge of the campus

7.11.2 Capturing views

- Look at opening up views from the campus as well as framing interesting sites. The campus could borrow from the outside landscape through the opening up of these views to create a more interesting space that emphasises these views
- Protect and enhance important view shafts and panoramic views to the ocean and other significant surrounding landscape features.

7.11.3 Safety

- Separate pedestrian areas and vehicular areas (as much a reasonably practicable) to create defined pedestrian routes and promote safety on the campus.
- Provide access for fire truck and emergency vehicle access through to key points within the site

7.11.4 Security

- Consider how the campus can be reduced into defined secure areas as move from day to nightime

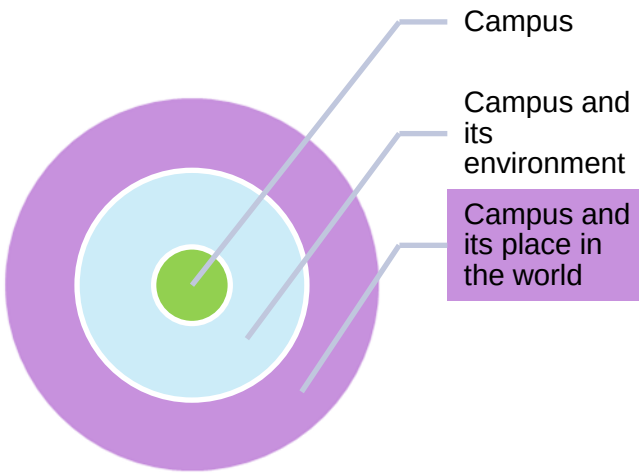
7.11.5 Campus edges

- Mark the campus by a well defined edge that also allows visual interaction between the campus and the surrounding community
- Use signage to reinforce the campus edges and assist way finding

7.11.6 Campus entry points

- Consider how the entry reflects the campus. A friendly, well maintained and welcoming entry conveys openness and can encourage visitors and interaction
- Consider areas where public are encouraged to come onto site i.e. recreation areas, vocational education, learning resource areas and provision of parking spaces

7.12 Campus Relationship to World Issues



7.13 Key Objectives

Align with the goal of the 2010 FSM Energy Policy that states "By 2020 the share of renewable energy sources will be at least 30% of total energy production, while electricity efficiency will increase by 50%. Energy efficiency referred here would also mean reduction of energy loss."

COM-FSM actions will align with the Energy Policy action points outlined in the 2010 FSM Energy Policy

7.14 The Energy Efficient and Sustainable Campus

High level principles are to:

- Conserve resources and save energy
- Protect natural areas
- Reduce carbon footprint through considered energy use
- Incorporate LEED (Leadership in Energy and Environmental Design) construction principles
- Minimize building footprint
- Design flexible (long life, loose fit) buildings whose uses can change over time.

7.14.1 Energy

Optimise building location and design in order to minimise the use of energy without reducing comfort and efficiency. The guidelines to achieve this are:

- Provide low wattage energy efficient lights.
- Provide individual controls to light sources. (Switching and/or dimming)
- Investigate efficiencies that can be gained from the use of power conditioners especially the effect consistent power quality can have on the life of sensitive equipment and fixtures e.g. compact bulbs
- Use of time and/or movement activated switches in selected spaces to avoid lights being left on unnecessarily.
- Optimise use of natural climate control to limit electricity use for ventilation and cooling.
- Specify energy efficient cooling equipment.
- Provide optimum levels of insulation in floors, walls and roof space
- Provide pressure sensitive taps and showers which automatically turn off after a few minutes to minimise water waste.
- Specify low flow taps and fittings
- Consider water harvesting opportunities
- Installation of photovoltaics (solar panels) on the roof where appropriate.
- Specify energy efficient and water use appliances
- Use solar hot water heating where appropriate
- Review alternative energy options e.g. wind power

7.14.2 Non renewable natural resources

The goal is to minimise the use of non-renewable natural resource. The guidelines to achieve this are:

- Identify and specify materials with a lifecycle of 50 years or more.
- Identify and specify materials which have minimum effect on the environment and which are renewable.
- Identify and specify materials which minimise the use of energy and other resources during production, fabrication and transportation.
- Re-use existing buildings where possible instead of demolishing (factoring in the serviceable life)

- Consider how and where demolition and waste construction materials are disposed of on the island.

7.14.3 Maintenance versus replacement of buildings

- Consider maintenance versus replacement costs in the design of all new buildings
- Optimise maintenance regimes to extend the life of existing campus buildings
- Specify materials that minimise maintenance costs and enable simple maintenance regimes that extend the serviceable life
- Specify materials that consider the harsh environmental conditions
- Form a strategy for replacing buildings beyond a serviceable cost limit (above and beyond an agreed replacement value)

NOTE: There are no hard and fast rules and each design decision must be based on investigation of the information available at the time.

7.15 The Climate Responsive Campus

Climate responsive design recognises that climate affects both the thermal performance of buildings and human comfort levels, and combines the study of climate, biology and building design to enhance living conditions and reduce energy consumption.

This practice can be defined as “the use of design principles and strategies which help reduce the ecological impact of buildings e.g. by reducing the consumption of energy and resources, or by minimising disturbances to existing vegetation” (Fawcett et al 2006)[10].

Due to the tropical climatic conditions experienced in the Federated States of Micronesia, climate sensitive design is fundamental to achieving quality built form and comfortable spaces. The following details how design can be used to create solutions that respond to the local climate.

7.15.1 Campus layout

Ventilation is essential for a hot humid climate, and existing air movements should be utilized and enhanced as much as possible to provide evaporative cooling, reduce temperatures and to avoid mould growth.

Spaces that are cool, shady and capture gentle cooling breezes will always attract greater concentrations of people. Places that are especially climatically pleasant will attract groups of people who meet to chat, study or simply sit.

At the COM-FSM campuses, the places where people congregate due to pleasant climatic conditions are:

1. National campus - under the narra trees

2. Pohnpei campus - under the avenue of mahogany trees

[10] (Fawcett, A., Palich, N., Nervegna, L. 2006, ‘Ecologically Sustainable Development – Glossary of Terms’, BDP Environment Design Guide, NOT 11, May)

3. Kosrae and Yap campus - The gap in the Administration Block verandah

Principles for campus design that creates a pleasant microclimate:

- An open built form pattern will enhance air flow. Buildings should be separated, with few structures between them so as to improve air flow
- Any footpaths between buildings should be shaded, and air should not be allowed to pass over such hot surfaces before reaching buildings
- Buildings in rows should be staggered to avoid downwind airflow shadows, and long facades should introduce devices (such as wing walls) to direct airflow into buildings
- Walkways should be covered, but cross-ventilation should not be impeded.
- Generous and well distributed areas of vegetation help to improve the microclimate
- Provide a vegetated screen as a barrier to direct sun heating up the building facade

7.15.2 Landscaping

Vegetation provides an excellent means of improving the climatic conditions. Its surface does not heat up nor reflect heat to adjacent spaces and it provides efficient shading at low cost. However, it has to be arranged in a way that does not impede air circulation. Good selection and grouping of vegetation can concentrate and direct breezes and wind to improve the cooling effect where desired. Vegetation also absorbs dust and pollution, and the type of vegetation may also influence wind velocity. The ideal tree for a hot, humid climate has a free, high trunk and high canopy providing shade.

Principles:

- A vegetated cover of the ground keeps it comparatively cool and contributes much to a cooler outdoor microclimate. Ground areas should be vegetated rather than paved wherever possible, with care taken to not impede air flow into buildings
- Asphalt increases radiation, and stone paving or cement increases it to a lesser extent. The use of asphalt should be discouraged
- High trees with wide, shading crowns provide significant protection from solar radiation and should be incorporated as much as possible into any landscape planting

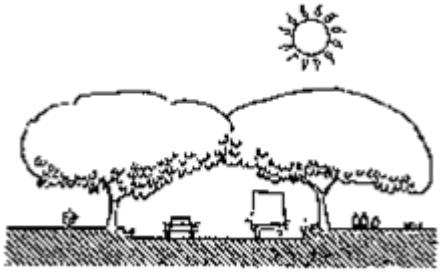


Figure 1: Climate Responsive Building - Appropriate Building Construction in Tropical and Subtropical Regions (SKAT; 1993; 324 pages)

- Dense or tall bushes should not be planted near buildings. The space between the ground vegetation and the high crowns of the trees should remain open, providing free access for the wind at the level of the living spaces

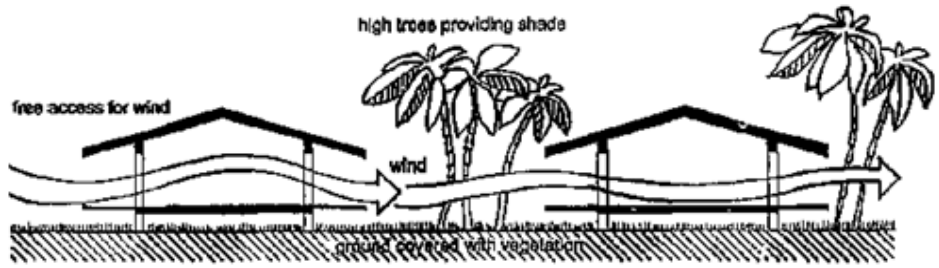


Figure 2: Climate Responsive Building - Appropriate Building Construction in Tropical and Subtropical Regions (SKAT; 1993; 324 pages)

In the COM-FSM campuses, suitable species for landscaping gathering spaces that provide shade and protection have already been used in specific areas.

Figure 3:Groups of students sitting under the narra tree

Figure 4: Canopies providing a shaded and cool area for pedestrians along the walkway to Classroom Building B at the National Campus

Figure 5: Stone slab seating at the entrance to the Learning Resource Center at the National campus

Figure 6:Seating areas along the Pohnpei campus boundary under the line of the mahogany trees

7.15.3 Building design

The design of buildings has a significant impact on the personal comfort of occupants or users. Well-designed buildings are dry, well-ventilated, comfortable and neither too hot nor too cool.

There are a number of factors that influence the successful design of a building. The placement of a building on a site, the basic arrangement of form and the basic internal layout are the most critical determinants of a building's comfort and should be addressed first. Following on from that, matters such as materials and efficiency can be considered.

The main goal is the reduction of (i) direct heat gain by radiation through openings and (ii) the internal surface temperature. The building should therefore be designed not only with protected openings, but also with protected walls. This task will be much easier if the building is kept low. In addition, the roof should extend far beyond the line of walls, with broad overhanging eaves and other means of shading. Intense diffuse solar radiation calls for buildings that have large overhanging roofs and wide shaded verandahs.

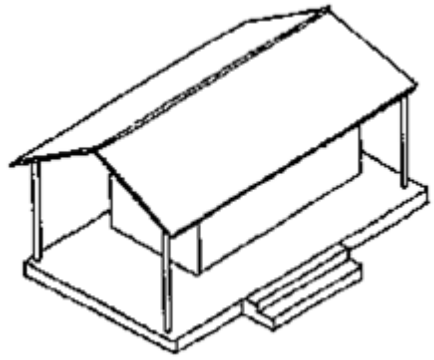


Figure 7: Low building with wide overhanging roof Climate Responsive Building - Appropriate Building Construction in Tropical and Subtropical Regions (SKAT; 1993; 324 pages)

The height of the buildings should, in general, not exceed 3 storeys. Higher buildings receive too much radiant heat and give wind obstruction to neighbouring buildings.

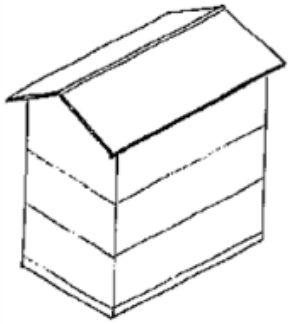


Figure 8; Building height not exceeding 3 storeys Climate Responsive Building - Appropriate Building Construction in Tropical and Subtropical Regions (SKAT; 1993; 324 pages)

The design of buildings for hot humid climates such as those in Micronesia should encompass the following basic principles:

- Buildings should respond to the climate, topography and setting as well as being able to stand up to extreme weather conditions
- The long sides of a building should be oriented to the north and south, where possible, and should be protected by an overhanging roof or eaves to reduce solar gain. Where a predominant wind direction can clearly be identified, long-shaped buildings should be arranged at 30 and 60 degrees across this direction. It is better to break up the length of long buildings with breezeways to allow air flow through
- The width of the building should be determined by ease and effectiveness of natural ventilation and light

- Use verandahs or large roof overhangs to:
  - enable windows to remain open during rainy periods.
  - provide shaded and dry access around the building for occupants and the public.
  - keep the building cooler by shading the external building fabric especially windows.
- Insulate roofs and verandah overhangs to reduce heat gain and rain noise.
- Select lighter colour roofing material to reflect radiant heat
- Consider the maximum shipping length of roof sheets as a factor in determining the optimal building width.
- The high humidity and warm temperatures require maximum ventilation. This is valid not only for the design of the elevations, but also for the floor plan.
- Free passage of air for cross-ventilation can be achieved by having large openings, not only in the outer walls but also in the internal partitions. An even more efficient solution is that of single-banked rooms with access from open verandahs or galleries.

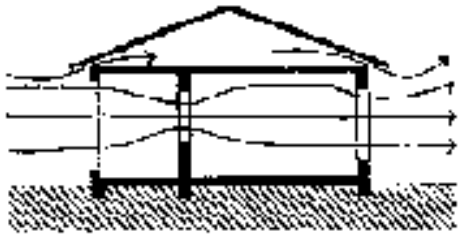


Figure 9: Large openings and screened in porches. Climate Responsive Building - Appropriate Building Construction in Tropical and Subtropical Regions (SKAT; 1993; 324 pages)

To achieve this:

- orientate buildings at an angle to the prevailing wind – preferably building faces at 30 & 60 degrees to wind not square on.
- have frequent breaks in long facades to keep breeze flowing through even when buildings are less occupied and operable windows are closed.
- locate intake ventilation openings at low level wherever possible to pass across occupants' bodies rather than over their heads.
- locate exhaust ventilation at high level to optimise thermal stack effect and remove hot air pockets at ceiling level.
- place offices or other partitioning that slows or disturbs airflow downstream of open plan spaces.
- position or protect at least some ventilation openings so they can operate continuously day and night even when spaces are unoccupied.
- design an elongated floor plan with minimum internal partitions (preferably open plan spaces) to create an easy passage for cross ventilation.
- high ceilings will help enable heat to ventilate out via roof joints (or chimneys).
- Look at possibilities for diverting the wind direction by means of vegetation and structural arrangements

Conceptual building design is a process that weighs a range of design drivers and decisions. Not all of these basic principles will be employed in every case and a detailed analysis of the specific situation should be part of the process of each design development.

Input for this section has been sourced from Climate Responsive Building - Appropriate Building Construction in Tropical and Subtropical Regions (SKAT; 1993; 324 pages), http://collections.infocollections.org/ukedu/en/d/Jsk02ce/5.2.html

8 Asset Condition Assessment

8.1 Introduction

An Asset Condition Assessment of the existing buildings and site infrastructure located at the Yap, FSM-FMI, Chuuk, National, Pohnpei and Kosrae campuses was carried out in June 2013..

The purpose of this Asset Condition Assessment Report is to record the existing condition of the COM-FSM assets (buildings and site infrastructure) so that:

1. The indicative cost of operating the COM-FSM assets through a 10, 20 and 30 year life cycle is identified and,

2. Decisions to either renew/upgrade or to demolish/replace the existing assets can be made.

This Asset Condition Assessment Report gives each asset an indicative condition grade, identifies the asset replacement cost, and the cost of operating (renewing and maintaining) them to provide a base reference for campus Facilities Planning decisions. It should be noted that the costs presented assume that the existing assets will be renewed, refurbished and maintained (with the exception of some buildings which are demolished). Any buildings which are replaced by the current campus Facilities Planning process (and subsequent changes in annual operating costs) are not included in this Asset Condition Assessment Report

The findings of this section are based on the on-site Condition Assessment conducted by Beca in June 2013. It should be noted that a visual assessment only has been carried out and that no in-depth investigations (e.g. no detailed structural or seismic strength investigations) have been undertaken.

8.2 Scope of Condition Assessment and Key Outputs

The scope of the Condition Assessment covers 68 No. existing buildings (excluding minor support structures and buildings) and site infrastructure located within the five COM-FSM campuses. The site area of the Yap, FSM-FMI, Chuuk, National, Pohnpei and Kosrae campuses totals approximately 6,283,851 sqft (144 acres) with 285,138 sqft of buildings. The key tasks undertaken include:

- The five campuses were visited in June 2013 to photograph and record visual defects in the buildings and site infrastructure.
- Data gathering and making observations.
- Grading the condition of each building asset (against a pre-determined set of criteria) and collating this to establish an overall condition grade for each asset.
- Assess the physical condition of the built assets (i.e. buildings and site infrastructure). Establish baseline condition to enable Life Cycle cost analysis.

The key outputs include:

- A general overview of the current condition of the assets.
- A condition appraisal of each building block by building element.
- Site observations and records of the existing site infrastructure
- Estimate of the potential replacement cost of each asset.

- Estimate the Operational Cost (Asset Renewals plus maintenance) of the assets as they currently exist. NOTE: the Operational Cost contained in this Condition Assessment assumes that all current assets are retained and maintained. Alternative Operational Costs for the proposed campus Facilities Planning re-development are noted separately in this overall report

8.3 Definitions

The following terminology has been used in the Condition Assessment Report and is defined as follows:

Terminology Used	Definition
Annualised Cost	The operational cost (renewals plus maintenance) which is averaged across either a 10 or 30 year period
Assets	Buildings, facilities and site infrastructure which are owned by CoM-FSM. For the purposes of this report assets exclude buildings and land which are leased (from other parties).
Condition Grade	Assessment of current condition, the amount of deterioration and life remaining in the asset (or element) – refer to Beca Condition Grading System (table below)
Element (Building Element)	An individual part of an asset or building e.g. substructure, roof, floor finishes, mechanical services.
Maintain / maintenance	The regular / routine upkeep of the asset. This includes building washing, minor repairs and building services maintenance etc.
Operational Cost	The combined cost of renewal (of deteriorated elements) and maintenance of assets. The cost (and funding required) required for the upkeep of the assets and to extend their serviceable life.
Renew / Renewal	The periodic renewal (or refurbishment) of an individual element when it has reached the end of its economic life e.g. the renewal of a roof when it is corroded or the renewal of air conditioning units when they can no longer be maintained
Replace / Replacement	Where an entire asset has deteriorated to the point where it is deemed to be uneconomic to renew individual elements it is demolished and may (if required) be replaced with a new asset/facility
Run-down	The time period between when an asset is identified as needing to be demolished and replaced is defined as the 'run-down period'. Minimal maintenance, essentially to rectify any health and safety issues only, is carried out during this period (to reduce costs).

8.4 Methodology

The approach we have adopted for carrying out the Condition Assessment is based on the following principles:

- Inspect, photograph and assess all built assets on an elemental basis (e.g.. Building Structure, Internal Building Fit-Out, Building Services and Site Infrastructure, etc) to establish the baseline of physical condition for the facilities (Refer: Beca Condition Grading System - Table below)
- Identify immediate maintenance requirements (from the site inspection) that can help extend the serviceable life of built assets.
- Quantify and value building/site infrastructure elements to understand the full asset replacement cost.
- Develop a maintenance cost plan that addresses the upkeep of the facility. This identifies when elements of the assets are due for renewal and the budget required for this renewal.
- Forecast capital replacement cost cycles taking into consideration the baseline condition assessment.

- Calculate the Operational Cost requirements in terms of asset renewal and maintenance costs.

8.5 Information Collection

As part of this building condition assessment, Beca undertook various information collection and data gathering activities to gain an understanding of the existing buildings and site infrastructure on site. This included for gathering and reviewing existing building and maintenance records, taking photographic records of defects encountered, detailed annotation of the building condition (and other specific findings), reviewing comments from a facility questionnaire and liaising with the on-site property manager to address any specific issues or requirements.

8.6 Condition Grading System

The condition of the buildings and site infrastructure elements were recorded and graded on a scale of 1 to 5, the basis of which is as detailed below:

Beca Condition Grading System

Condition Grade	Life Expiry (%)	Grade Definition
0	0%	Not present or not applicable
1	0% to 20%	The building/element is new and is functioning as required. Routine maintenance is required to extend serviceable life
2	20% to 40%	The building/element is functioning as required. Routine maintenance is required to extend serviceable life
3	40% to 60%	The building element is approaching the end of its serviceable life but is still functioning as required. Significant maintenance is required to extend serviceable life.
4	60% to 80%	The building element is showing signs of failure and deterioration. Extensive maintenance is required or the item should be considered for renewal or replacement
5	80% to 100%	The building element has failed and has deteriorated significantly beyond the point of repair or renewal. The item must be replaced

The Condition Grades are used to assess the point at which the asset undergoes renewal or replacement. The condition assessment, amount of remaining life in each element, the forecast capital replacement cost and operational costs are all considered when determining the point of renewal or replacement. This assists in supporting operational cost funding proposals.

For the CoM-FSM, we have assumed that a condition grade of 4 or 5 will generally trigger the requirement for renewal of building elements, or for the replacement of assets. It should be noted that in some cases the overall condition of a building may be grade 3, but because of structural failure of either the foundations or the building frame elements (which have a condition grade of 5) it is considered uneconomic to renew/maintain the building and demolition/replacement is recommended.

8.7 Building Elements Assessed

The building condition assessment consisted of an inspection of the building premises and above ground site infrastructure. This was carried out on a ‘block-by-block’ basis and covered both the interior and exterior of the buildings and site improvements. The information recorded from the

building condition assessment was used to provide real-time information on the current state of building assets which is critical for accurate capital replacement and maintenance expenditure planning.

The plans supplied by COM-FSM were used to calculate the general floor, wall and ceiling areas of each building and open space. The building elements that were assessed as part of the building condition assessment typically included the following:

Elements Assessed	Checks Made For
Structural Elements Generally	Evidence of spalling concrete, cracking, settlement, corrosion, poor workmanship, decay, insect attack (termites/borer), etc
Roof Finishes	Delaminating and flaking paint finishes, excessive mould, worn liquid applied finishes, etc
Roof Cladding	Corrosion, bowing and warping of cladding material, flashings around penetrations, water ingress, insufficient fixings, etc
Wall Structure/Cladding	Corrosion, bowing and warping of cladding material, flashings around penetrations, water ingress, insufficient fixings, etc
External Wall Finishes	Delaminating and flaking paint finishes, excessive mould, cracked and worn plaster finishes, water ingress, etc
External Doors	Rotting timber or corroding doors, door frames and hardware, Significant damage through vandalism or general wear and tear.
External Windows	Rotting timber frames, corrosion, inadequate flashing details, signs of water ingress, vandalism damage, wear and tear
Ceiling Finish	Warped ceiling tiles, water damage, worn or flaking paint finishes, excessive mould growth, etc
Ceiling Structure	Deflection or sagging in the ceiling line, etc
Internal Wall Finishes	Worn or flaking paint finishes, excessive mould growth, general wear and tear of finishes, vandalism, etc
Internal Partitions	Rot, general wear and tear, vandalism, penetrations, etc
Floor Finishes	General wear and tear, lifting or delaminating floor coverings, cracked or broken tiles, threshold strips, etc
Floor Structure	Rot, marks, leveling of floor, penetrations, water ingress, etc
Internal Doors	General wear and tear, vandalism, etc
Services Generally	General age and condition of the service installations (Note: Not a detailed audit)

Dashboards recording individual building condition grades and the top five elements requiring urgent maintenance, renewal or replacement are included in the appendices of the individual campus specific reports.

8.8 Forecast of Operational Costs

The forecast Operational Costs have been prepared as follows:

1. Develop the Maintenance Cost Plan. This is the cost of annual routine maintenance and includes building washing, painting, repairs and maintaining building services (mechanical, electrical fire etc.). This cost has been established by multiplying quantities (e.g. wall area)

by an appropriate $/ft2 rate for washing or painting. To this an allowance for general overheads (e.g. supervision, vehicle running expenses etc.) has been added.

2. Develop the cost of periodic element Renewals. From the condition grade assessment and amount of remaining life in the building element the date and cost of renewal is determined (e.g. a roof with 10 years life remaining has been budgeted for replacement in 2023). For the COM-FSM campuses the cost of renewals has been viewed over 10, 20 and 30 year periods.

3. The forecast Operational Cost is established by adding annual maintenance and periodic element renewal costs. This is annualised or averaged over a 30 year period (i.e. the total operational cost over 30 years divided by 30). It should be recognized that for cash-flow purposes actual operational costs will vary from year to year depending on the amount of actual renewals required in that specific year. Detailed monitoring and management of the operational cost cash flow on an annual basis will be required by COM-FSM.

8.9 Escalation

Escalation over a 30 year period of asset renewals and maintenance is a significant cost. Because of the significant impact of escalation two sets of cost, one which excludes escalation (i.e. present day 2013 costs) and the other which includes escalation have been presented at the main summary level. Escalation has been assumed to be 3.4% per annum for the next 30 years. This is based on an assessment of historical data provided by Mundi (refer web-site address below):

http://www.indexmundi.com/federated_states_of_micronesia/#Economy

It is critical for long term funding purposes that the allowances for escalation are included in all budgets and funding applications.

8.10 Economic Modelling

All costs have been presented in 2013 dollar values and have been escalated over a 30 year period. No economic modelling to calculate the future cost of money, net present value or allowance for funding/intersect charges have been made. It is recommended that a detailed economic model of the operational cost of the CoM assets is carried out as this may influence the funding requirements.

8.11 Results/Findings

8.11.1 Condition Grade Assessment Results

The following is a summary of the condition grade of the assets across the six campuses.

Campus	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Yap	2	2	3	2	
FSM-FMI			1	5	
Chuuk			8	2	1
National			13	2	
Pohnpei			12	3	1
Kosrae			6	5	
Total	**2**	**2**	**43**	**19**	**2**

From our condition assessment we observe the following:

1. Buildings constructed from permanent low maintenance materials e.g. blockwork walls, aluminium windows etc. are generally in better condition and have a longer economic life span than steel or timber framed structures.

2. Most buildings have water tight issues with their roofs and many require re-roofing or roofing repairs. The ingress of water is causing additional deterioration to the buildings.

3. A large number of air conditioning units are due for renewal and this will be a significant cost.

4. Maintenance being carried out under the current Operational budget of $150,000 per annum is insufficient. The periodic renewal of building element under the IF Maintenance Fund of $350,000 per annum is also insufficient. There is a significant amount of deferred asset renewals and maintenance which is increasing the amount of deterioration in the assets.

    a. Unless the current Operational budget is increased the condition of the assets will continue to deteriorate and the number of buildings requiring replacement (and consequently additional capital replacement funding) will increase.

    b. A clear, well organised asset renewal and routine maintenance plan needs to be developed and this needs to be implemented. An indicative asset renewal and maintenance cost plan has been included in Appendix D of this report as an all campus summary and Appendix C of the specific Part 3 campus reports.

    c. Regular monitoring and review of the asset renewal and routine maintenance plan needs to be carried out.

8.11.2 Forecast Operational Costs Results

Outlined below are forecast operational costs split into 10 year sections over a 30 year period. Note that costs including and excluding escalation are identified. Funding of the operational costs should be based on the costs that include escalation.

Forecast Operational Costs – Excluding Escalation

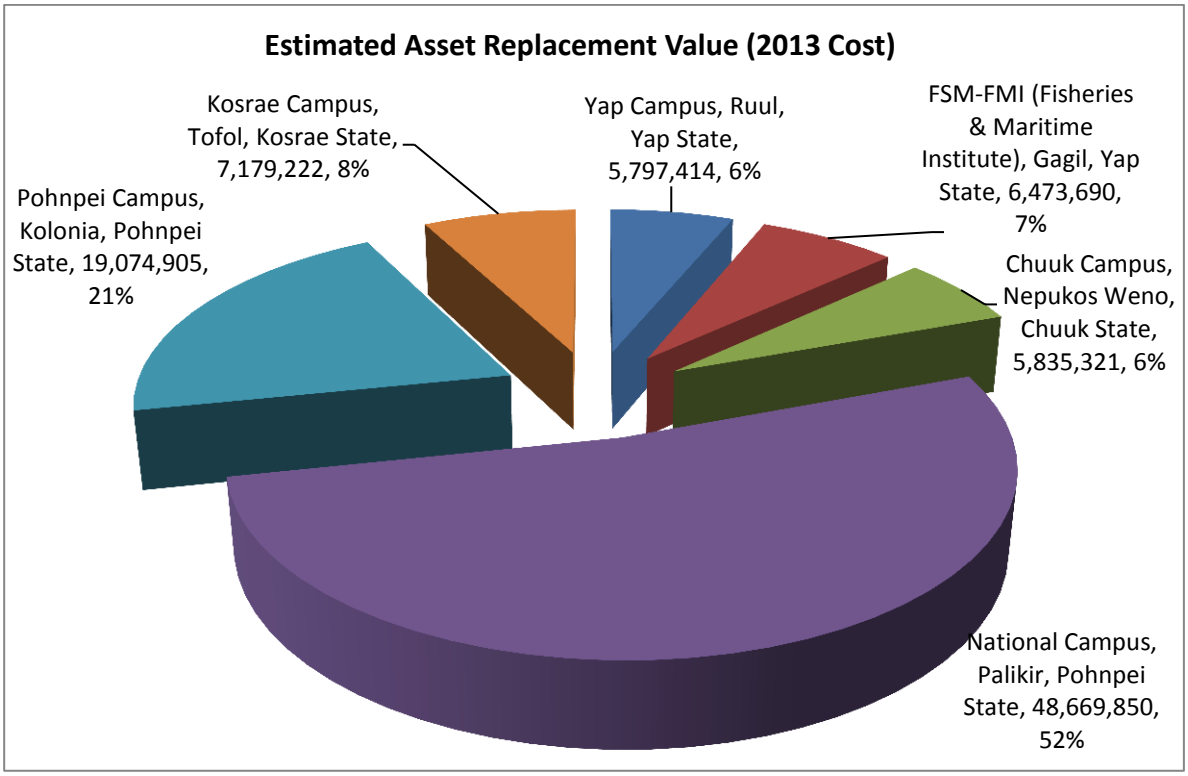
Ref	Campus	Estimated Full Replacement Cost Cost ($ USD) Excluding Escalation	Annualised Total Operational Cost (Excluding Escalation)	Total Year 1-10 Operational Cost ($USD) Excluding Escalation	Total Year 11-20 Operational Cost ($USD) Excluding Escalation	Total Year 21-30 Operational Cost($USD) Excluding Escalation
1.00	Yap Campus, Ruul, Yap State	5,797,414	168,167	1,186,683	1,603,286	2,255,042
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	6,473,690	222,348	1,915,988	2,542,092	2,212,369
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	5,835,321	195,262	1,702,962	1,861,741	2,293,145
4.00	National Campus, Palikir, Pohnpei State	48,669,850	916,447	7,181,838	11,003,654	9,307,913
5.00	Pohnpei Campus, Kolonia, Pohnpei State	19,074,905	610,302	5,931,315	5,389,036	6,988,723
6.00	Kosrae Campus, Tofol, Kosrae State	7,179,222	226,796	1,631,210	2,345,998	2,826,665
	TOTALS EXCLUDING ESCALATION	93,030,402	2,339,322	19,549,997	24,745,807	25,883,857

Forecast Operational Costs – Including Escalation (USE THESE AMOUNTS FOR FUNDING)

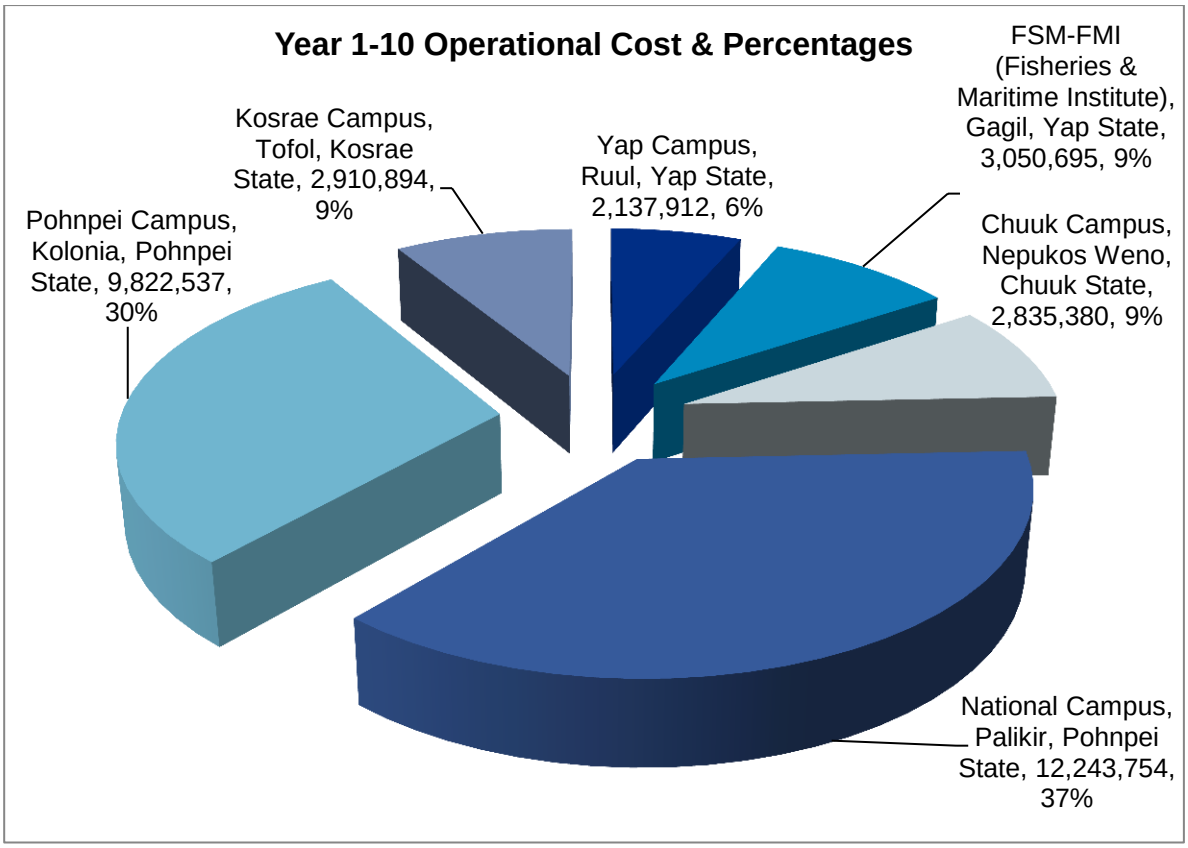
Ref	Campus	Annualised Total Operational Cost (Including Escalation)	Total Year 1-10 Operational Cost ($USD) Including Escalation	Total Year 11-20 Operational Cost ($USD) Including Escalation	Total Year 21-30 Oerational Cost ($USD) Including Escalation
1.00	Yap Campus, Ruul, Yap State	362,061	2,137,912	3,201,481	5,522,434
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	441,158	3,050,695	4,840,302	5,343,741
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	404,042	2,835,380	3,694,252	5,591,638
4.00	National Campus, Palikir, Pohnpei State	1,849,675	12,243,754	20,875,228	22,371,255
5.00	Pohnpei Campus, Kolonia, Pohnpei State	1,239,311	9,822,537	10,641,118	16,715,684
6.00	Kosrae Campus, Tofol, Kosrae State	479,714	2,910,894	4,556,998	6,923,526
	TOTALS INCLUDING ESCALATION	4,775,961	33,001,171	47,809,378	62,468,278

The forecast Operational Costs (including escalation) as outlined in the above table are suggested for funding and budgeting purposes. Annualised costs are the total operational costs spent over a 30 year period (divided by 30).

The estimated replacement cost (2013 costs) of the COM-FSM assets on the six campuses is approximately $US93M (excluding land, loose furniture and equipment). Outlined below is the breakdown of the asset replacement costs per campus.



The Operational Cost and Percentages table (below) highlights where CoM-FSM needs to invest in asset renewal and routine maintenance to maximise the life of the existing capital assets, to prevent deterioration and to avoid additional capital replacement expenditure.



The forecast operational costs ($US33M for Years 1-10 equates to approximately $US3.3M per year average) identified above are significantly higher than the $US150,000 per annum that is currently being budgeted for maintenance by COM-FSM. The forecast operational cost equates to approximately 2.5% of the estimated asset replacement cost (based on Year 1 operational and replacement costs). Historically in New Zealand institutional and corporate organisations invest in the order of 3-4% of the replacement cost into operational costs. We consider that the forecast operational costs as outlined above are necessary to operate and maintain the capital investment already made by the COM-FSM.

8.11.3 Results/Findings for Individual Campuses

Refer to "College of Micronesia - FSM Space Utilization and Facilities Masterplan Study, Part 3 for detailed reports for the Condition Assessment of each individual campus which contains a more detailed analysis of forecast Operational costs. Dashboards recording individual building condition grades and the top five elements requiring urgent maintenance, renewal or replacement are included in the appendices of the Part 3 campus specific Asset Condition reports. Refer to Appendix D in this study for the summary of the indicative asset renewal and maintenance plan

8.12 Conclusions & Recommendations

The conclusions and recommendations from the Asset Condition Assessment are:

1. There is a significant amount of deferred asset renewals and maintenance which is increasing the amount of deterioration in the assets.

2. The current COM-FSM operational budget of $150,000 per annum is insufficient to meet both maintenance and the periodic renewal of building element requirements.

3. Unless the current Operational budget is increased the condition of the assets will continue to deteriorate and the number of buildings requiring replacement (and consequently additional capital replacement funding) will increase.

4. The forecast Operational budget for the six campuses for Years 1-10 is estimated at $US33M including escalation (assumed at 3.4% per annum). No detailed economic modelling has been completed and it is recommended that this is carried out to ascertain the future 'cost of money' which may influence funding requirements.

5. Any Operational cost savings, which may be achieved, from replacing buildings by the current (proposed) campus Facilities Planning process have not been considered in this forecast and are addressed separately.

6. A clear, well organised asset renewal and routine maintenance plan needs to be developed and implemented. An indicative asset renewal and maintenance cost plan has been included in Appendix D.

7. Regular monitoring and review of the asset renewal and routine maintenance plan and the asset condition needs to be carried out.

8. This assessment ignores integration issues with future developments identified in the Development Strategy component of this Facilities Study. This assessment is based purely on the visual condition of the existing buildings and ignores the practicalities of whether the buildings are suitable for refurbishment or should demolished and replaced (this is to be determined by the Development Strategy component of this Facilities Study).

8.13 Limitations of the Condition Assessment

The life cycle and renewal/replacement projections used in our report are indicative only as they are predictions of future circumstances, which cannot be assured. Actual results may vary from the projections and these variations may be significantly more or less favorable than assumed herein. The findings in this report are current as at the date of inspection (June 2013) and not at the date of this report.

All estimated asset/capital replacement costs are high-level and indicative with an accuracy range of +/- 30%. Please note that these costs exclude all Government Goods and Services Taxes, Import/Customs Duties, Design/Procurement Costs, etc.

All estimated operational costs reflect capital replacement and maintenance works only of the buildings and site infrastructure.

All costs are detailed in the data sheets and spreadsheets (refer appendices) are current as at June 2013. Escalation of the Operational Costs have been added to the overall cost summaries. Escalation is assumed to be 3.4% per annum.

This assessment is not a health and safety audit. Beca does not accept liability for any client health and safety issues whether reported or not. Any issues arising from the possible presence of contaminated or potentially toxic materials onsite, (e.g. asbestos) are excluded from this report. This report does not constitute an environmental audit and no allowance has been made for the presence of any such materials should they exist at the subject property.

Our building condition audit is based on a visual assessment of the buildings and site infrastructure only. Furthermore the visual assessment was not a detailed engineering survey of the assets. Cursory observations have been made of the following specialist elements however our report will not include for detailed investigation reports such as:

- Building Code of Compliance issues
- Building structures (e.g. Structural integrity, building subsidence, structural decay, etc)
- Health and safety issues (e.g. asbestos, contaminated fill, leaky buildings, etc)
- Mechanical services such as heating and ventilation
- Electrical services such as power, lighting and building management systems
- Information & technology and communication systems
- Sanitary plumbing and drainage
- Water reticulation
- Fire services
- Vertical transportation such as lifts and escalators
- Security

Whilst each building's structure was inspected for defects such as settlement, spalling, cracking and bowing, etc it should be noted that this was an exterior visual assessment of the exposed parts of the building structures for the purpose of assigning condition grades and was not a structural engineering assessment of the buildings.

The building condition audit does not include for the inspection of sub-floor voids, roof/ceiling voids, plenum spaces or other areas that are difficult to access or could trigger health and safety issues.

Our report will include a condition assessment of the roof surfaces, however these will be observed from ground level. No underground services have been able to be assessed. No detailed inspections (e.g. removal of wall linings etc) have been carried out.

The building condition audit will not include for destructive testing of building elements which is normally associated with identifying extensive damage as a result of weather tightness issues. Problems potentially relating to leaky buildings and weather tightness will be flagged for further investigation.

The preparation of this report does not imply in any way that Beca has audited the financial statements, management accounts, engineering or other records of the COM-FSM Where another party has supplied information for use in this report, it is assumed to be reliable.

This report should not be reproduced or used for any other purpose without Beca's prior written permission in each instance.

Beca reserves the right, but not the obligation, to review all calculations included or referred to in this report and, if considered necessary, to revise its opinion in the light of any information existing at the site visit which becomes known after

8.14 Assumptions Made in the Condition Assessment

It has been assumed that:

- The rate of escalation over the next 30 years will be an average of 3.4% per annum.
- The existing buildings will be retained (this ignores the possible re-development of buildings as proposed by the Development Strategy component of this Facilities Study)

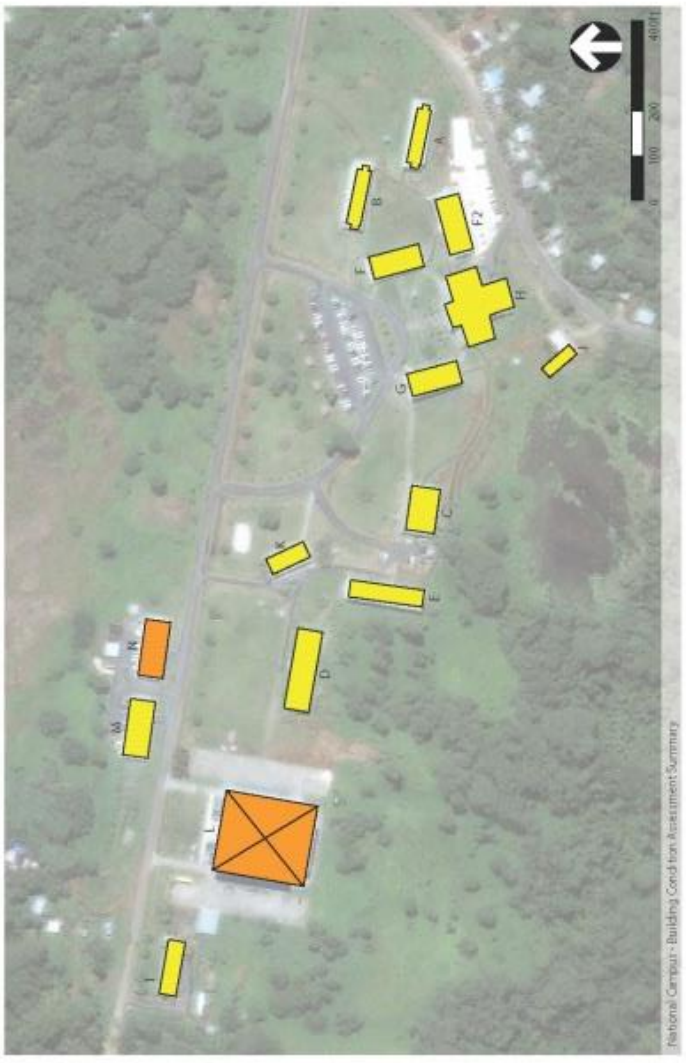
8.15 Exclusions from the Condition Assessment and Forecast Operational Costs

The following has been excluded from the Condition Assessment and forecast Operational Costs:

- Replacement of loose furniture, fittings and equipment.
- The cost of renewal or maintenance of buildings that are leased (it is assumed that the building owners will carry out renewals and maintenance)
- All other College operating costs such as energy bills, teaching & administration staff salaries and expenses, disposables, vehicles, tools, machinery, rental equipment, property/building leasing costs, travel costs, insurances etc.
- The Total Cost of Ownership has not been calculated as part of this study. It is assumed that the COM-FSM will use the operational costs (maintenance plus asset renewal costs) provided as an input to their build-up of the total cost of ownership.
- Taxes, duties and government fees or charges.

8.16 Campus Condition Grading Summary Plans

National Campus



LEGEND
(Summary of Building and Element Condition Grade)

- Very Good (0-20%)
- Good (20-50%)
- Average (40-60%)
- Poor (50-80%)
- Very Poor (>80%)
- Buildings shown crossed have a poor structural condition grade

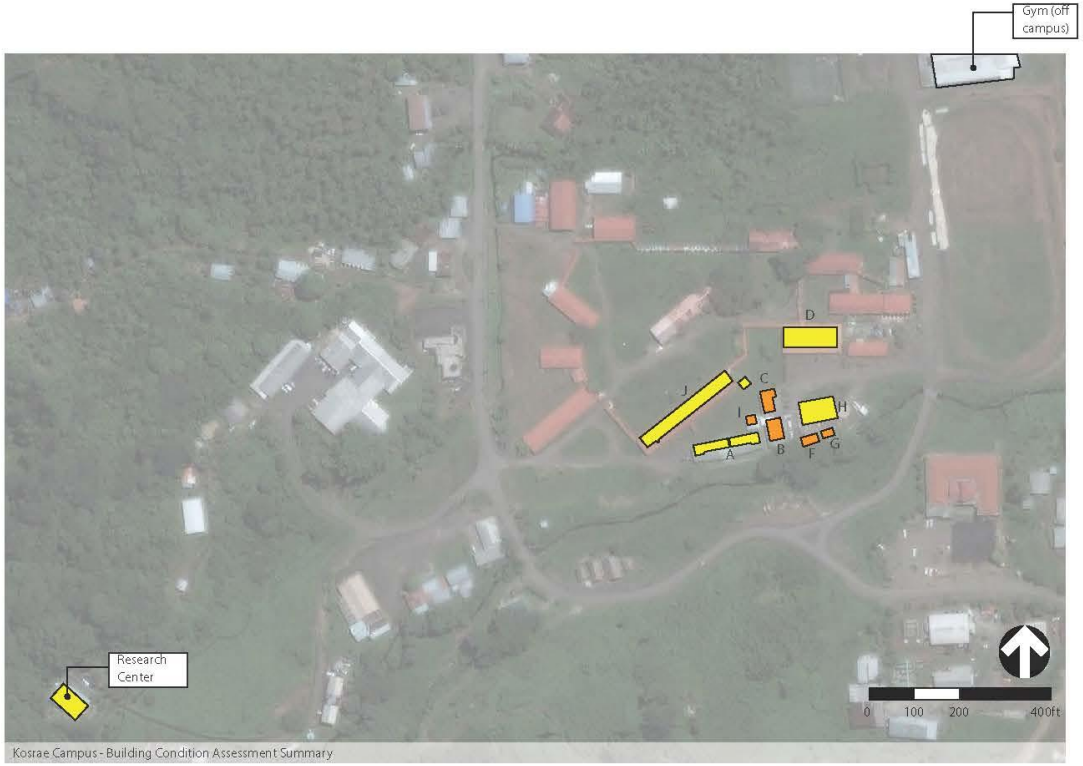
No.	Building Description
A	Specialized classrooms (Building A)
B	Standard classrooms (Building B)
C	Dining Hall
D	Men's Residence Hall
E	Women's Residence Hall
F	Faculty Offices (old)
F2	Faculty Offices (new)
G	Administration
H	Learning Resources Center and MITC
I	Agriculture
J	A + Center and Art Classroom
K	Book store, Dispensary, Student Services
L	FSM - China Friendship Sports Center
M	Security, Weights Room, IT Shop
N	Maintenance, CPE, Music Classroom

Chuuk Campus - Building Condition Assessment Summary

No.	Building Description
A	Administration / Faculty Office
B	Classroom Building B
C	Classroom Building C
D	Campus Dean's Office
E	Restrooms
F	CRE Building
G	Generator House
H	Student Services Building
I	Computer Lab
J	Student Center
K	Learning Resources Center

LEGEND
(Summary of Building and Element Condition Grades)

- Very Good (0-20%)
- Good (20-50%)
- Average (40-60%))
- Poor (50-80%)
- Very Poor (>80%)
- Buildings shown crossed have a poor structural condition grade



Kosrae Campus - Building Condition Assessment Summary

No.	Building Description
A	Administration Building/ Classrooms
B	Land Grant Building
C	Faculty Building
D	Rose Mackwelung Library
F	Maintenance Shop
G	Maintenance Office
H	KSBDC Building
I	Bookstore
J	Learning Resources and Career Development

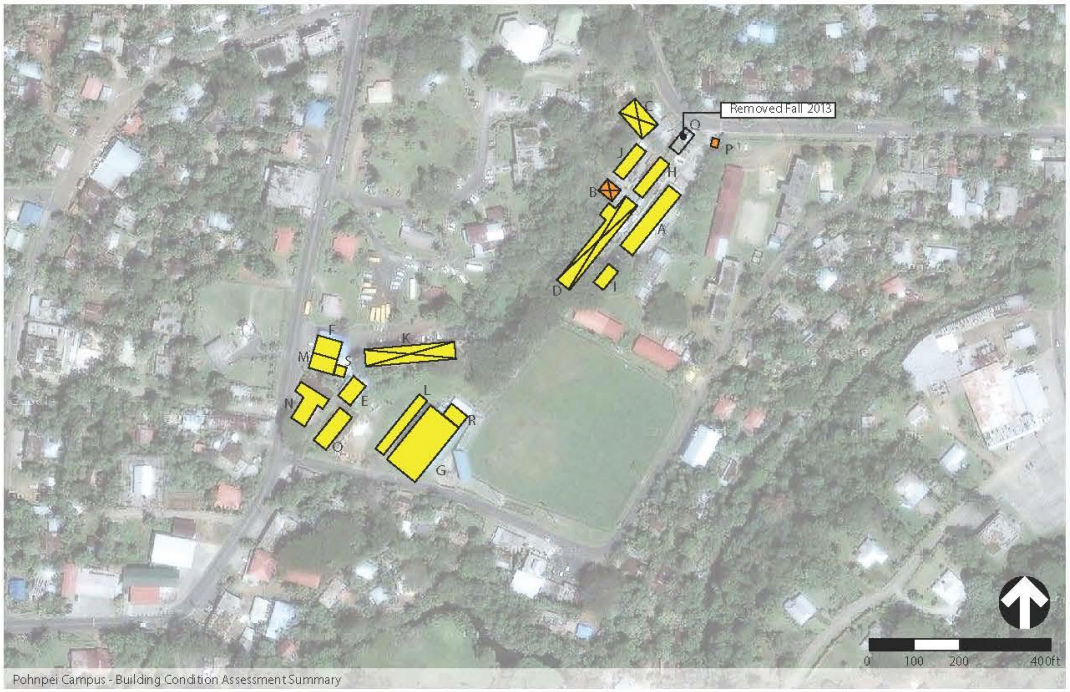
NOTE:

Carpentry shop and electronic

LEGEND

(Summary of Building and Element Condition Grades)

- Very Good (0-20%)
- Good (20-50%)
- Average (40-60%))
- Poor (50-80%)
- Very Poor (>80%)
- Buildings shown crossed have a poor structural condition grade



Pohnpei Campus - Building Condition Assessment Summary

No.	Building Description
A	Administration Building
B	Bookstore
C	I.C. Building/ Electronics classrooms
D	Classroom Building A
E	Electrical Building
F	Carpentry Shop
G	Gymnasium
H	Hotel and Tourism Building
I	IT Shop
J	Classroom Building B

K	Vocational classrooms, TSP, UB, CES
L	Student Services Center
M	Mechanic Shop
N	Land Grant Building
O	PSBDC Building
P	Security Shed
Q	Nahs (removed Fall 2013)
R	Maintenance Building
S	Refridgeration Shop

LEGEND

(Summary of Building and Element Condition Grades)

- Very Good (0-20%)
- Good (20-50%)
- Average (40-60%))
- Poor (50-80%)
- Very Poor (>80%)
- Buildings shown crossed have a poor structural condition grade

Yap Campus - Building Condition Assessment Summary

No.	Building Description
A	Administration Building
B	Computer Lab
C	CRE Building
D	Science Laboratory
E	Student Center Building
F	Classroom Building
G	Vocational Building
H	Student Open Lounge

LEGEND
(Summary of Building and Element Condition Grades)

- Very Good (0-20%)
- Good (20-50%)
- Average (40-60%))
- Poor (50-80%)
- Very Poor (>80%)
- Buildings shown crossed have a poor structural condition grade

FSM-FMI Campus - Building Condition Assessment Summary

No.	Building Description
A	Administration/Student Services and Living Quarters/Mess hall
B	Staff housing
C	Classrooms, Library and Shops
D	Maintenance office

LEGEND

(Summary of Building and Element Condition Grades)

- Very Good (0-20%)
- Good (20-50%)
- Average (40-60%))
- Poor (50-80%)
- Very Poor (>80%)
- Buildings shown crossed have a poor structural condition grade

9 Space Utilization and Facilities Study Rough Order of Cost Estimate

9.1 Assumptions Made in the Rough Order of Cost Estimate

A number of assumptions have been made in the preparation of the rough order of cost estimates. These assumptions include the following:

- Fit-out costs for desks, chairs and loose furniture have been assumed at $10/ft2. No allowance has been made for any additional furniture, fittings and equipment required.
- The estimates have been prepared in both current (2013) costs with escalation allowances identified separately. The rate of escalation has been assumed to be 3.4% per annum. The actual escalation amounts assume construction within the time period identified in the re-development programme. No escalation for construction of projects outside of this timeframe has been allowed for.
- Architectural and engineering fees have been assumed to average 15% across all projects.
- A contingency allowance of 15% has been included across all projects. This allowance will require confirmation at developed design stage when the project scope and risks will be better understood.

9.2 Exclusions from the Rough Order of Cost Estimate

The following are excluded from the rough order of cost estimates:

- No allowance for data projectors, computers, printers and associated hardware and software, photocopiers etc. has been made,
- Property purchase and leasing costs,
- Relocation of staff, fittings and equipment on the existing Chuuk Nepukos Weno campus to the proposed Nantaku site.
- Any demolition or holding costs associated with the Chuuk campus Nepukos Weno site (after relocation to the proposed Nantaku site),
- Taxes, duties and fees.

9.3 Limitations to the Rough Order of Cost Estimate

These estimates are rough order of cost estimates and are based on highly conceptual information. No detailed investigation or design has been carried out. Accordingly these rough order of cost estimates are not a statement of absolute cost and have an accuracy range that is no better than -20% to +30%. Because of this wide accuracy range it is assumed that all estimates will be confirmed at developed design stage (where the project scope and risks will be better understood) and prior to making funding applications.

9.4 Summary of Rough Order of Cost Estimates

The purpose of the rough order of cost estimates is to inform the COM-FSM Facilities Study of the potential cost of re-development of the COM-FSM campuses. The potential order of cost for the proposed re-development of the COM-FSM campuses is summarized in the table below.

	COM-FSM Space Utilization and Facilities Study Rough Order of Cost Estimate Summary - All Campuses All Projects	Buildings, Services & Siteworks $USD (Nov 2013 cost)	Allowance for Fit-out $USD (Nov 2013 cost)	TOTAL $USD (Nov 2013 cost)	Allowance for Escalation (3.4% pa)	TOTAL Escalated Cost $USD
a	These are 'rough order of cost' estimates based on highly conceptual information and have an accuracy range that is no better than +/-20%. All estimates need to					
b	Fit-out costs (desks, chairs & loose furniture only) assumed at $10/ft2					
c	No allowance for data projectors, screens, computers, printers, photo-copiers etc					
d	Architectural & Engineering fees and contingency allowances have been included					
e	Escalation has been assumed at the rate of 3.4% per annum. November 2013 has					
f	Property purchase or leasing costs are excluded					
g	Taxes, duties and fees are excluded on all projects					
h	Rough order of costs are based on historical cost data on a per square foot basis for a standard of building that is assumed					
	CoM (all Campuses) 5 year period to 2018					
	Yap	3,145,000	100,000	3,245,000	137,000	3,382,000
	FSM - FMI	1,438,000	40,000	1,478,000	60,000	1,538,000
	Chuuk	15,240,000	440,000	15,680,000	639,000	16,319,000
	National	5,665,000	160,000	5,825,000	238,000	6,063,000
	Pohnpei	5,115,000	155,000	5,270,000	235,000	5,505,000
	Kosrae	4,385,000	120,000	4,505,000	175,000	4,680,000
	TOTAL CoM (All Campuses) 5 Year Period to 2018	**34,988,000**	**1,015,000**	**36,003,000**	**1,484,000**	**37,487,000**
	CoM (All Campuses) 10 year vision (2019 to 2023)					
	Yap	4,120,000	230,000	4,350,000	214,000	4,564,000
	FSM - FMI	725,000	35,000	760,000	37,000	797,000
	Chuuk	4,235,000	135,000	4,370,000	205,000	4,575,000
	National	2,010,000	75,000	2,085,000	102,000	2,187,000
	Pohnpei	945,000	25,000	970,000	46,000	1,016,000
	Kosrae	2,810,000	60,000	2,870,000	140,000	3,010,000
	TOTAL All Campuses - 10 year vision	**14,845,000**	**560,000**	**15,405,000**	**744,000**	**16,149,000**
	CoM (All Campuses) Long term vision (Beyond 2023)					
	Yap	2,735,000	20,000	2,755,000	135,000	2,890,000
	FSM - FMI	740,000	0	740,000	35,000	775,000
	Chuuk	3,280,000	110,000	3,390,000	156,000	3,546,000
	National	1,000,000	0	1,000,000	50,000	1,050,000
	Pohnpei	5,410,000	170,000	5,580,000	265,000	5,845,000
	Kosrae	4,215,000	180,000	4,395,000	211,000	4,606,000
	TOTAL All Campuses - Long Term	**17,380,000**	**480,000**	**17,860,000**	**852,000**	**18,712,000**
	CoM (All Campuses) Further Projects					
	Yap	600,000	0	600,000	35,000	635,000
	FSM - FMI	1,150,000	0	1,150,000	55,000	1,205,000
	Chuuk	500,000	0	500,000	25,000	525,000
	National	500,000	0	500,000	25,000	525,000
	Pohnpei	820,000	0	820,000	50,000	870,000
	Kosrae	1,130,000	0	1,130,000	55,000	1,185,000
	TOTAL CoM (All Campuses) Futher Projects	**4,700,000**	**0**	**4,700,000**	**245,000**	**4,945,000**
	GRAND TOTAL (All Campuses)	**71,913,000**	**2,055,000**	**73,968,000**	**3,325,000**	**77,293,000**

As noted above the proposed re-development of the COM-FSM campuses totals $US73.968M in 2013 present day costs and totals $US77.293M including escalation allowances. Refer to Appendix E for more detail regarding the rough order of cost estimates.

10 Asset Valuation (Following Campus Project Plan Initiatives)

The following table is a summary of our estimated asset valuation pre and post implementation of the campus project plan initiatives. This assessment displays the current asset value (i.e. estimated full replacement value); the total estimated capital improvements and an estimated forecast of asset value on completion of the projects. The findings of this assessment are as tabled below:

Summary of Asset Value

	Current Estimated Asset Value (Base Assessment)	Estimated Capital Improvements (As Per Master Plan)	Estimated Asset Value (On Completion of MP Projects)			
Campus	Estimated Full Replacement Cost of Existing Asset ($ USD)	Total Capital Improvements ($ USD)	Asset Value after Capital Improvements ($ USD)	Increase on Asset Value ($ USD)	Increase on Asset Value (%)	Variance on Asset Value vs Capital Improvements ($ USD)
Yap Campus	5,797,414	10,950,000	14,515,892	8,718,478	150.39%	-2,231,522
FSM-FMI (Fisheries & Maritime Institute)	6,473,690	4,128,000	10,504,738	4,031,048	62.27%	-96,952
Chuuk Campus	5,835,321	23,940,000	29,690,321	23,855,000	408.80%	-85,000
National Campus	48,669,850	9,410,000	57,934,850	9,265,000	19.04%	-145,000
Pohnpei Campus	19,074,905	12,640,000	24,067,250	4,992,345	26.17%	-7,647,655
Kosrae Campus	7,179,222	12,900,000	17,899,272	10,720,051	149.32%	-2,179,949
Total	**93,030,402**	**73,968,000**	**154,612,323**	**61,581,922**	**66.20%**	**-12,386,078**

Please refer to Appendix D for further detail on the above assessment. All of the above figures exclude escalation costs and Government taxes etc.

The following points should be noted in respect of the above assessment:

Chuuk Campus (Nepukos Weno Site & Nantaku Site)

The Asset Valuation after Capital Improvements of $29,690,321 is the combined total of both the existing Nepukos Weno site and the proposed new Nantaku site. Please note that the Asset Valuation after Capital Improvements for the Nepukos Weno site only is approximately USD $6,170,321 (Note: At full replacement value). Consideration should be given to the actual market value of the assets located at the Nepukos Weno site for potential resale as this may be considerably less than the full replacement value stated above.

Variance on Asset Value vs Capital Improvements

Please note that the variance of USD -$12,386,078 relates to Project Plan initiatives that are of demolition, enabling, temporary works nature or 'like for like' building/site infrastructure replacement. These projects will not increase the overall asset value but will provide other physical benefits such as better functioning teaching facilities and/or reduced operational costs. Under the current capital improvement strategy, every $1.00 USD spent is returning approximately $0.66 increase in asset value.

10.1 Facilities Study Impacts on Operational Costs

As part of this study we have reviewed the operational cost model in conjunction with the Facilities Study project initiatives. This assessment generally aims to provide an adjusted (but theoretical) operational cost model after implementation of the proposed project initiatives over a 30 year period. The analysis covers the effects of capital improvements made to an existing asset base recognising that some of the master plan projects could increase or discharge part (or all) of the operational costs (i.e. asset renewal and maintenance cost obligations).

Operational cost adjustments have been assessed for each campus on a building and site infrastructure line level basis. The assessment broadly considers the planned period of Facilities Study project implementation (Note: 10 year blocks have been used for this assessment) and factor increases/decreases operational costs according to asset value and operational cost trends. For example, a run-down building with a condition grade of 4 to 5 (being the worst grade range) will be reset to a condition grade of 1 if refurbished. This in-turn results in a lower and more cost efficient operational cost model. The findings of this analysis are as tabled below:

Summary of 1-10Y Operational Cost Forecast

Campus	1-10Y Capital Improvements ($ USD)	1-10Y Base Operational Cost ($ USD)	1-10Y Adjusted Operational Cost on Completion of MP Projects ($ USD)	1-10Y Variance on Operational Cost on Completion of MP Projects ($ USD)	1-10Y Variance on Operational Cost on Completion of MP Projects (%)
Yap Campus	7,595,000	1,186,683	537,613	-649,071	-120.73%
FSM-FMI (Fisheries & Maritime Institute)	2,238,000	1,915,988	1,891,635	-24,353	-1.29%
Chuuk Campus	20,050,000	1,702,962	458,824	-1,244,139	-271.16%
National Campus	7,910,000	7,181,838	7,181,838	0	0.00%
Pohnpei Campus	6,240,000	5,931,315	2,161,034	-3,770,281	-174.47%
Kosrae Campus	7,375,000	1,631,210	1,222,277	-408,934	-33.46%
Total	**51,408,000**	**19,549,997**	**13,453,220**	**-6,096,777**	**-45.32%**

Summary of 11-20Y Operational Cost Forecast

Campus	11-20Y Capital Improvements ($ USD)	11-20Y Base Operational Cost ($ USD)	11-20Y Adjusted Operational Cost on Completion of MP Projects ($ USD)	11-20Y Variance on Operational Cost on Completion of MP Projects ($ USD)	11-20Y Variance on Operational Cost on Completion of MP Projects (%)
Yap Campus	2,755,000	1,603,286	1,578,072	-25,214	-1.60%
FSM-FMI (Fisheries & Maritime Institute)	740,000	2,542,092	2,637,453	95,361	3.62%
Chuuk Campus	3,390,000	1,861,741	1,161,516	-700,225	-60.29%
National Campus	1,000,000	11,003,654	11,423,304	419,650	3.67%
Pohnpei Campus	5,580,000	5,389,036	3,867,236	-1,521,800	-39.35%

Campus	11-20Y Capital Improvements ($ USD)	11-20Y Base Operational Cost ($ USD)	11-20Y Adjusted Operational Cost on Completion of MP Projects ($ USD)	11-20Y Variance on Operational Cost on Completion of MP Projects ($ USD)	11-20Y Variance on Operational Cost on Completion of MP Projects (%)
Kosrae Campus	4,395,000	2,345,998	2,116,840	-229,158	-10.83%
Total	**17,860,000**	**24,745,807**	**22,784,420**	**-1,961,386**	**-8.61%**

Summary of 21-30Y Operational Cost Forecast

Campus	21-30Y Capital Improvements ($ USD)	21-30Y Base Operational Cost ($ USD)	21-30Y Adjusted Operational Cost on Completion of MP Projects ($ USD)	21-30Y Variance on Operational Cost on Completion of MP Projects ($ USD)	21-30Y Variance on Operational Cost on Completion of MP Projects (%)
Yap Campus	600,000	2,255,042	2,643,483	388,441	14.69%
FSM-FMI (Fisheries & Maritime Institute)	1,150,000	2,212,369	2,471,619	259,249	10.49%
Chuuk Campus	500,000	2,293,145	2,434,515	141,370	5.81%
National Campus	500,000	9,307,913	10,181,563	873,650	8.58%
Pohnpei Campus	820,000	6,988,723	6,056,193	-932,530	-15.40%
Kosrae Campus	1,130,000	2,826,665	2,924,509	97,844	3.35%
Total	**4,700,000**	**25,883,857**	**26,711,882**	**828,025**	**3.10%**

Summary of 30Y Operational Forecast

Campus	Total 30Y Capital Improvements ($ USD)	Total 30Y Base Operational Cost ($ USD)	Total 30Y Adjusted Operational Cost on Completion of MP Projects ($ USD)	30Y Variance on Operational Cost on Completion of MP Projects ($ USD)	30Y Variance on Operational Cost on Completion of MP Projects (%)
Yap Campus	10,950,000	5,045,011	4,759,168	-285,843	-6.01%
FSM-FMI (Fisheries & Maritime Institute)	4,128,000	6,670,450	7,000,708	330,257	4.72%
Chuuk Campus	23,940,000	5,857,848	4,054,855	-1,802,994	-44.47%
National Campus	9,410,000	27,493,404	28,786,704	1,293,300	4.49%
Pohnpei Campus	12,640,000	18,309,074	12,084,463	-6,224,611	-51.51%
Kosrae Campus	12,900,000	6,803,873	6,263,626	-540,248	-8.63%
Total	**73,968,000**	**70,179,661**	**62,949,523**	**-7,230,138**	**-11.49%**

Please refer to Appendix D for further detail on the above assessment.

Please note that this assessment is indicative only and should not be relied upon as absolute or final for budgetary planning purposes. All of the above figures are based dated in 2013 dollars and exclude

escalation costs, Government taxes and other costs associated with the day-to-day running of campuses (i.e. management, administration and energy costs, etc).

The above findings demonstrate major operational cost benefits for the Chuuk and Pohnpei campuses which is due to a combination of new building/site infrastructure development (taking place of existing run-down facilities) and general consolidation and reduction of building space needed. A bulk of the operational cost savings (i.e. 45.32%) are realised in the first 10 year period where a majority of the capital improvement projects (i.e. USD $51,408,000) would take place.

By year 30 the total asset value is forecast to be USD $154,612,323 (i.e. an increase from the current asset replacement value of USD $93,030,402 by 66.20%). At the end of this period there is also a forecast reduction in operational costs of -$7,230,138 (or -11.49%). Please note that beyond 30 years, operational costs will increase significantly on the new development projects as asset renewal cycles reach the end of maturity. Operational costs extending beyond 30 years have not been forecast and are specifically excluded from this assessment.

10.2 Optimised Maintenance Strategy

Upon review of the annual maintenance cost results, Beca have reviewed possible alternatives to executing a maintenance regime. The most obvious alternative to reducing maintenance expenditure is to reduce the frequency of maintenance across all campuses. This is not advised as it could potentially compromise the asset renewal cycle (and the overall operational cost) as a result of elements not being maintained to an appropriate level prescribed by manufacturers/suppliers and other international standards. The frequency of maintenance allowed for in the base assessment is considered to be already optimised and set at an appropriate level to service the asset maintenance and renewal requirements under a normal commercial model.

Another suggested approach to reducing the maintenance cost burden is to implement a voluntary maintenance regime (utilising COM-FSM students) across all campuses to undertake low skill level maintenance activities. This regime may also deliver other positive (but passive) benefits such as a sense of ownership and upkeep of the facilities by students. Beca has undertaken a resource requirements/cost benefit analysis for deploying a combined voluntary labour (VL) and employed/contract labour (ECL) maintenance regime. This assessment also recognises that some maintenance activities must be undertaken by skilled trades or employed professionals in specialised fields. The results of this analysis are as summarised below:

Annual Summary of Voluntary Labour Requirements and Cost Benefits (Combined Buildings & Site Infrastructure)

Campus	ECL (Base) Maint. Cost Assessment ($ USD)	VL & ECL Maint. Cost Assessment ($ USD)	Total Cost Saving ($ USD)	Total Cost Saving (%)	Total Voluntary Labour Required (Hours)
Yap Campus	45,130	32,735	-12,395	-37.87%	4,132
FSM-FMI (Fisheries & Maritime Institute)	44,942	33,951	-10,991	-32.37%	3,664
Chuuk Campus	47,673	35,129	-12,543	-35.71%	4,181
National Campus	207,427	155,374	-52,053	-33.50%	17,351
Pohnpei Campus	151,580	118,117	-33,463	-28.33%	11,154
Kosrae Campus	57,116	44,044	-13,072	-29.68%	4,357
Total	**553,868**	**419,350**	**-134,517**	**-32.08%**	**44,839**

ECL – Employed or Contract Labour / VL – Voluntary Labour

Please refer to Appendix D for further detail on the above assessment.

Please note that this assessment is indicative only and should not be relied upon as absolute or final for budgetary planning use. All of the above figures are based dated in 2013 dollars and exclude escalation costs, Government taxes and other costs associated with the day-to-day running of campuses (i.e. management, administration and energy costs, etc).

The annual voluntary labour assessment of 44,839 hours for the buildings and site infrastructure maintenance works could potentially be met by the existing student roll (i.e. numbering approximately 2,500). This would equate to a commitment of approximately 18 hours per student (or 2 days per annum) as a voluntary maintenance service and could potentially deliver approximately USD $135,000 per annum in savings.

The following (and not limited to) maintenance activities could be undertaken as part of the voluntary service:

- Washing down and cleaning of buildings externally (roof cladding, clearing out gutters, wall cladding, doors and windows, etc).
- Painting the building envelope (roof and wall cladding) and internal finishes.
- General cleaning internally (walls, floors and ceiling finishes).
- Basic servicing/cleaning of split system air-conditioning systems.
- Support with grounds keeping including (mowing, spraying, tree pruning etc).
- Washing, cleaning, painting and repair of minor structures and external furniture.
- Other more skilled and technical areas deemed appropriate to support the current teaching curriculum (e.g. mechanical, electrical, plumbing and drainage services).

10.3 Maintenance Cost Benefit Analysis

In New Zealand the life span of a fully maintained building is expected to be in the order of approximately 50 years as a minimum. These buildings are exposed to harsh environmental elements such as corrosion in coastal areas, adverse weather (humidity, high winds, storms, etc) and earthquakes. Yet there is a high rate of building stock in New Zealand that have performed well against these severe elements and have undergone minor asset renewal works. The common factors behind this trend are the thorough maintenance regimes that are deployed (i.e. spend money now to save on substantial cost later). For example, under these principles a roof cladding that is washed and repainted on regular programmed cycles could last much longer than its prescribed life span. Buildings and infrastructure however can be more susceptible to and will have an inherently higher frequency of asset renewal cycles (e.g. teaching institutions, hospitals and other public use buildings). This is highly dependent on the asset function, volume of human traffic, period of use and environment.

Beca have undertaken a high level Maintenance Cost Benefit Analysis to assess the benefits of implementing a thorough maintenance regime. These benefits can generally be summarised as lower asset renewal cost and extended life of built assets as a result of revival back to a good maintainable base condition. Please note that forecasting cost benefit is a highly subjective exercise involving predictions of how long elements will last if maintained as required. The results of the assessment below are purely for illustrative purposes and should not be referred to as absolute or final.

Summary of Maintenance Cost Benefit Analysis (Buildings Only)

	A	B	C = A - B	D	E = C - D
Element	30Y Asset Renewal Cost ($ USD)	30Y Asset Renewal Cost if Maintained ($ USD)	30Y Asset Renewal Cost Saving ($ USD)	30Y ECL Maint. Cost ($ USD)	Cost Benefit Over 30Y ($ USD)
External Wall & Roof Cladding	7,752,167	3,876,084	3,876,084	3,606,675	269,408
External Windows & Doors	2,903,577	2,073,984	829,594	403,275	426,319
Structure – Miscellaneous	2,310,000	1,732,500	577,500	866,250	-288,750
Floor Finishes	6,168,664	4,626,498	1,542,166	252,354	1,289,812
Internal Wall Linings	6,030,328	4,020,219	2,010,109	700,289	1,309,820
Ceiling & Soffit Linings	3,204,134	2,136,089	1,068,045	434,104	633,941
Internal Doors	569,700	406,929	162,771	474,750	-311,979
Internal Fit-Out – Miscellaneous	583,750	437,813	145,938	875,625	-729,688
Fire Supp. Detection & Alarm	855,415	855,415	0	416,896	-416,896
Mechanical Ventilation	115,500	77,000	38,500	231,000	-192,500
A/C Systems	7,335,429	4,279,000	3,056,429	1,167,000	1,889,429
Hot Water Generation	60,000	45,000	15,000	180,000	-165,000
Electrical Services	5,132,490	3,849,367	1,283,122	420,972	862,150
Hydraulic Services	2,107,000	1,580,250	526,750	451,500	75,250
Comm. Systems	1,710,830	1,710,830	0	802,500	-802,500
Vertical Transport	48,750	39,000	9,750	75,000	-65,250
Internal Fit-Out – Miscellaneous	1,145,000	858,750	286,250	858,750	-572,500
Total	**48,032,734**	**32,604,728**	**15,428,007**	**12,216,940**	**3,211,066**

Please refer to Appendix D for further detail on the above assessment. All of the above figures are based dated in 2013 dollars and exclude escalation costs, Government taxes and other costs associated with the day-to-day running of campuses (i.e. management, administration and energy costs, etc).

Please note that the above assessment is based on a standard commercial maintenance model (i.e. including direct employed labour and contract labour) and does not take into account a voluntary based maintenance regime.

The above cost benefit analysis saving result of $3,211,066 (6.7% of the baseline expected asset renewal cost) could be considered as a low value (or neutral) outcome in monetary terms when viewed over a 30 year period. However, the tangible benefits of maintaining assets as prescribed could ultimately result in an intact/robust asset for the future (i.e. beyond 30 years) with a renewed or extended life expectancy.

It is advised that maintenance strategies be planned in accordance with the over-arching College Facilities Study to ensure that all efforts are targeted appropriately on assets set for long term use and minimised on assets due to be decommissioned (e.g. phase out buildings that are not economically viable to repair and/or are no longer required). This will in-turn help reduce the operational cost burden.

11 Common Energy Review Actions

11.1 Introduction

Energy Efficiency is one of the four primary components of the FSM Energy policy.

The Energy Audit workstream was commissioned to review the performance of the site in terms of its current energy usage.

Currently the vast majority of electricity consumed on site is provided from a local grid connection, with electricity produced by diesel fuelled generators.

CoM-FSM Goals

The major goal of the national energy policy is “to become less dependent on imported sources of energy”, and that “by 2020…energy efficiency will increase by 50%”.

Further to this the IEMP for COM-FSM, contains the goals of “implementing best practices for energy conservation”, and “Developing and utilizing alternative sources of energy” with the goal of saving natural resources and hence revenue expenditure.

Actions Taken

To help in achieving the above goals in the context of COM-FSM, the following works have been undertaken.

- Review and analysis of the following data sources
  - Analysis of current energy use from review of energy bills
  - Review of how energy is used, the efficiency of energy use and benchmarking across campuses.
- Based on the above, identify key recommendations across all campuses, and specific recommendations on a campus-by-campus basis.

Recommended Methodology:

To achieve the above, the following steps are generally recognised as being the most effective way of reducing energy consumption.

1. Reduce to a minimum energy wastage. These measures are generally “low handing fruit”: simple and low cost to implement, but can have a significant impact on energy usage. Measures include:
   a. Turning off lights / computers etc when not in use
   b. Measures such as increasing the setpoint of air conditioning units
2. Maximise Energy Efficiency. These measures have a capital cost associated, but can be incorporated as part of an on-going scheduled replacement cycle of equipment. Measures include:
   a. Replace light fittings with high efficiency models. Modern LED light fittings have a payback time of 3-5 years over compact florescent fittings, and have an additional benefit of longer life and reduced on-going maintenance.

b. Ensure plant is operating at its maximum efficiency by provided regular planned preventative maintenance – e.g. cleaning filters etc.

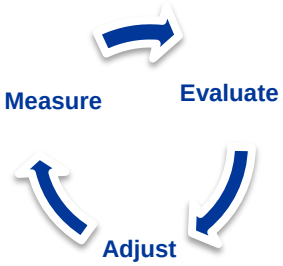
c. When replacing plant or equipment, select models providing an optimum balance of capital cost and running efficiency.

3. Integrate renewable energy technologies - it is important to ensure that any renewable technologies are introduced in an integrated and effective way, and can be maintained long term. These would generally form separate capital expenditure projects, such as:

a. Photovoltaic electricity generation, Solar hot water generation

If steps 1 and 2 have been completed prior to undertaking step 3, this ensures that any renewable energy generated is being used effectively, rather than used in-efficiently, or wasted by un-necessary use.

11.2 Recommendations



A key component in improving energy efficiency is the ability to assess progress.

The National Campus is leading the way with full records of each buildings energy use for the last 3 years. This is the standard which all campuses should attain to allow accurate tracking of the effectiveness of energy reduction strategies implemented.

In reviewing the data available, several trends became apparent across all campuses.

Identified Issue	Proposed Improvement
Records of Energy Usage	Review of metering to all sites (with exception of the National Campus), with installation of additional meters to provide a more focussed view of energy usage.
Electrical Use	Ensure all lights and computers are turned off when not in use. Consider installation of occupancy sensors to control lighting where appropriate.
	Replace magnetic ballast to existing lights with electronic
Air Conditioning	Set points of units often very low (16°c). Setting units to achieve a temperature of 24 or 25° will allow the units to operate far more efficiently.
	Close windows when systems are operating, and seal any holes in air conditioned spaces
Planned Preventative Maintenance	Ensure planned preventative maintenance is carried out to keep plant operating efficiently and to prolong plant life. E.g. regular washing of outdoor units to reduce corrosion, ensure filters are clean and un-obstructed etc.

The energy usage data has been analysed using electricity usage per unit floor area (kWh / ft²) as a measure to account for the large variation in size of the sites. Directly comparing “raw” energy usage is not appropriate as it does not take into account that one campus may be larger or smaller than another.

These figures indicate that targeting permanently occupied spaces such as offices, admin areas etc will provide the greatest potential for energy saving.

Engagement of staff, facilities staff and students will be key in achieving a sustained reduction in energy usage, and the use of educational literature, energy saving competitions, and regular updates on energy performance can all be used to maintain interest.

Appendix A

Gap Analysis and Input Summary

Report

College of Micronesia – FSM Gap Analysis and Input summary

Prepared for College of Micronesia –FSM (Client)

By Beca International Consultants Ltd (Beca)

4/08/2013

Revision History

Revision Nº	Prepared By	Description	Date
A	Annette Jones	Draft for review by PCG by 9th August	4st August 2013

Document Acceptance

Action	Name	Signed	Date
Prepared by	Annette Jones		31/07/13
Reviewed by	Fraser Vickers		31/07/13
Approved by	Fraser Vickers		31/07/13
on behalf of	Beca International Consultants Ltd		

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Appendices

1 Introduction

This gap analysis report is the first deliverable of the College of Micronesia – FSM Facilities masterplan and is one of the outputs for Phase 1 – Information gathering and analysis phase.

The purpose of the gap analysis process is to identify the level of existing information available, information gaps and further information required. For each workstream any issues with the available base information is summarised along with a proposed way forward for the consideration of the Project Control Group (PCG).

Information has been provided by the College of Micronesia – FSM, Sandy Pond Associates and information gathered on site visits. Detail on the spatial review inputs has been documented in an **Inputs Register.** The information received from the condition assessment and energy audit workstreams is summarised in table form within this report.

Requests for specific information have been formally made through a **Request for Information** process along with specific email requests. A register of requests provides a summary of this process.

For clarity a summary of the information requested and received is divided in this report into the following relevant workstreams;

Section 2 - Spatial review

Section 3 - Condition assessment

Section 4 - Energy audit

1.1 Requested review process by the Facilities Masterplan PCG

A review box is provided for each item to be reviewed and signed off by the Project Control Review Group. Please indicate acceptance by circling the tick box – if not in agreement circle the cross box. 

Please also provide any comment at the bottom of the table. Sign off of these parts of the gap analysis will enable progress with Phase 2 – Design principles

The appendices provide more detail on the information requested and received along with an outline of the reports that will be referred to in the development of the Facilities Masterplan report.

2 Spatial review information

2.1 Information required –as identified in the proposal

- College of Micronesia – FSM vision, mission and masterplan drivers
- Understanding of current and future educational needs
- Campus directory identifying preferred campus building names and notation
- Building plans identifying names and numbers for each of the rooms within each campus building

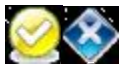
2.2 Summary of information received

Information required	Information received	PCG Review box
College of Micronesia – FSM vision, mission and masterplan drivers	The current College of Micronesia –FSM provides a valuable information resource. The overarching document that will be referred to is the IEMP. Further documents that will be referred to are listed in the Inputs register in **Appendix A.**	**PCG ACTION REQUIRED:** PCG to review Appendix A and identify any further input documents to be considered
Understanding of current and future educational needs , space utilisation data	Sandy Pond Associates Educational Assessment Component report - 80% issue	
Campus directory identifying preferred campus building names and notation	Based on campus directory contained in the COM-FSM 2013 online catalog. Minor amendments provided by Director of Maintenance, Facilities and Security and provided in map form in **Appendix D.**	**PCG ACTION REQUIRED:** PCG to review Appendix D and confirm acceptance
Building plans identifying names and numbers for each of the rooms within each campus building	**Nothing received** **INFORMATION GAP:** Names and numbers not available for all buildings - refer to summary spreadsheet in **Appendix C** - Schedule of building information available	

PCG COMMENT:

2.2.1 Further relevant information provided during Phase 1 – information gathering and analysis phase

During the first Spatial Review site visit in June 2013 a range of further information not identified in the proposal that would be relevant and useful for the Facilities Masterplan was provided in meetings with President Joe Daisy, Vice President Joe Habuchmai, Francisco Mendiola (Director of Maintenance, Facilities and Security) and Wilson Hess (Sandy Pond Associates).

Further information identified	Description and status	PCG Review box
Student feedback on the physical environment	Further discussion with Student Services (Joey Oducado) and Frankie Harriss with President Joe Daisy prior to the second Spatial Review visit to identify how to best capture this input	
ACCJC Accreditation information, evaluation reports	Links taken from COM-FSM website. Reference reports outlined in the Inputs register, refer to **Appendix A**	 **PCG ACTION REQUIRED:** PCG to review Appendix A and identify any further input documents to be considered
Building size and classroom area	Spreadsheet provided with room schedule, total building area and toilet provision for - Chuuk campus	
Reference information for spatial ratios to inform toilet ratios, administration and teaching areas	American Architects standard is referenced currently by Francisco Mendiola (Director of Maintenance, Facilities and Security). Yap campus new buildings referenced to design standards including NZ/ AS standards	
Reference to LEED standard in accreditation review	The approach is that LEED standard principles are considered alongside and balanced with climate appropriate design methods and material selection	

PCG COMMENT:

2.3 Gaps and way forward

Identified gap	Way forward	PCG agreement to way forward
Building plans identifying names and numbers for each of the rooms within each campus building	Site measure undertaken with hand mark ups of overall room dimensions and overall building. COM maintenance to identify rooms on provided handrawn .pdf plan for input into spatial schedules. **IMPLICATION: IMPACT ON PROGRAM**	
Understanding of future educational requirements and impact on facilities planning	Video-conference meeting to capture this input with personnel identified by the PCG	
Identification of all relevant people to speak with regard to the Spatial review. Information to be gathered either by video-conference prior to the second spatial review trip or face to face meetings during this trip in August 2013.	PCG to identify relevant personnel from the Personnel listing copied from the COM-FSM online catalog. Refer to **Appendix E.** http://www.comfsm.fm/publications/catalog-2013-2014/personnel-listing.pdf	
Quantification and identification of reliable and ongoing funding source	Input will be sought from Vice President Joe Habuchmai on any variations to the Total Cost of Ownership paper on the second Spatial Review visit	

PCG COMMENT:

3 Condition assessment information

3.1 Information required –as identified in the proposal

- Scaled digitised plans of the buildings on each campus in .pdf format. These plans would include at a minimum the attributes of each room in a building (size and location). Any further services and structural plans that can be made available would assist in understanding the construction and servicing of existing buildings.
- Campus directory identifying preferred campus building names and notation
- CAD survey plans for all campuses (except FSM-FMI campus on Yap). Survey to identify site boundaries, road location, footpaths, levels, services, vegetation and building footprints.
- Current maintenance/ financial records and program
- Records of known issues with building and infrastructure
- Payback periods and budget

3.2 Summary of information received

Information required	Information received	PCG Review box
Scaled digitised plans of the buildings on each campus in .pdf format. These plans would include at a minimum the attributes of each room in a building (size and location).Any further services and structural plans that can be made available would assist in understanding the construction and servicing of existing buildings.	Digitised plans available for only approximately half of the campus buildings with large variations of information available between campuses. Plans available are from COM-FSM either in scanned or cad form are coloured orange on the Building Identification plans contained in **Appendix D** **INFORMATION GAP:** Plans not available for all campus buildings **IMPLICATION: IMPACT ON PROGRAM** – time required site measure existing buildings for which drawings are unavailable	
Campus directory identifying preferred campus building names and notation	An agreed campus directory is contained in **Appendix D**	
CAD survey plans for all campuses (except FSM-FMI campus on Yap). Survey to identify site boundaries, road location, footpaths, levels, services, vegetation and building footprints.	CAD survey plans received for; Yap, Chuuk, Pohnpei, National and Kosrae campuses	
Current maintenance/ financial records and program	Schedule provided identifying 2012 to 2017 major repairs and renovations by building for each campus	

Records of known issues with building and infrastructure	Infrastructure questionnaire sent prior to the site visit with questions on building and infrastructure information, known issues. Questionnaires completed for all campuses	
Payback periods and forward budget	**NO DETAILED BREKADOWN RECEIVED** Total operational cost projected budgets contained in the IEMP used as a reference.	

PCG COMMENT:

3.2.1 Further relevant information provided during Phase 1 – information gathering and analysis phase

During the Condition Assessment site visit in June 2013 a range of further information not identified in the proposal that would be relevant and useful for the Facilities Masterplan was identified in meetings with Francisco Mendiola (Director of Maintenance, Facilities and Security) and during the site visit.

Further information identified	Description and status	PCG Review box
Buildings maintained by COM-FSM and identification of buildings maintained by others	The following buildings will not form part of the condition assessment and maintenance program Pohnpei campus - Land Grant building (N) - UB and TSP Trio building (K) Kosrae campus - Half of the Rose Mackwellung building (D) used by COM-FSM - Gear up building (E) - Building H - ground floor	
Appliances Inventory	Appliances inventory (electrical appliances) for; - Kosrae Campus - FSM-FMI campus	
Mechanical Plant Inventory	Air conditioning schedule identifying model and voltage information as well as building and room location for each unit - Chuuk - Kosrae - National campus	
Utility Expense Records	National campus - power and water expenses from January to June 2013	

PCG COMMENT:

3.3 Gaps and way forward

Identified gap	Way forward	PCG agreement to way forward
Plans available for approximately only half campus buildings	Basic overall building and room site measurement information will be used as an input into schedules to inform the spatial review.	 **PCG INPUT:** Any detailed spatial schedules similar to the Chuuk campus would be of assistance for the spatial review
Plans of below ground services	Confirm the current built in-ground infrastructure – preferably any as built plans. Scans of any drawings held on file would be useful – these can be transferred by Accellion large email transfer	
Capital replacement and maintenance budgets	Confirmation on current budget for operations firstly and maintenance secondly for the next 5 year period per campus per annum Please identify; 1. Budget for replacement costs 2. And secondly budget for maintenance costs (to illustrate with an example - replacement cost of a split A/C unit versus Maintenance costs of servicing an A/C) Identification of other budget sources and these figures.	 **PCG INPUT:** Budget outline following discussion with Mark Wilson (Beca)
PCG COMMENT:		

4 Energy audit information

4.1 Information required –as identified in the proposal

- Energy consumption records (3 years of power bills preferred)

Information required	Information received	PCG Review box
Energy consumption records (3 years of power bills preferred)	National campus – spreadsheet with KwH usage per building. Data from 2010 to 2013. Schedule of monthly water and power costs for 2010 and 2011. Pohnpei - 4 months of power consumption data per building in 2012 Kosrae campus - monthly power consumption report for 2012 Yap campus - March 2011 to January 2012 spreadsheet of individual building power usage per month Chuuk campus - One month of KwH usage per building -2012 data	

PCG COMMENT:

4.1.1 Further relevant information provided during Phase 1 – information gathering and analysis phase

During the Condition Assessment site visit in June 2013 a range of further information not identified in the proposal that would be relevant and useful for the Facilities Masterplan was identified in meetings with Francisco Mendiola (Director of Maintenance, Facilities and Security)

Further information identified	Description and status	PCG Review box
Three phase building supply	All campuses spreadsheet provided by COM maintenance identifying single and three phase buildings	

PCG COMMENT:

4.2 Gaps and way forward

Identified gap	Way forward	PCG agreement to way forward
Any further energy bills available	PCG to clarify if there is any information available - particularly for Pohnpei and Chuuk campuses would be useful	

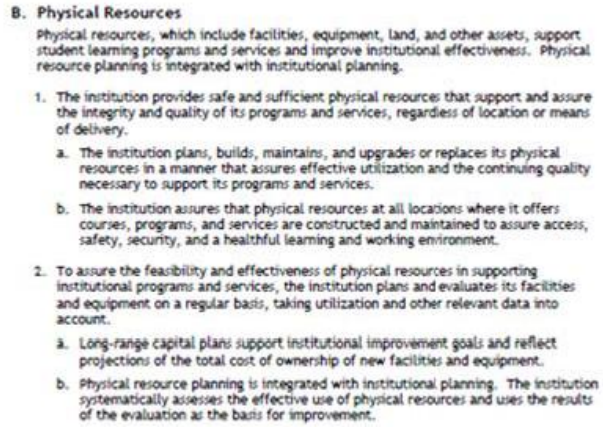
PCG COMMENT:

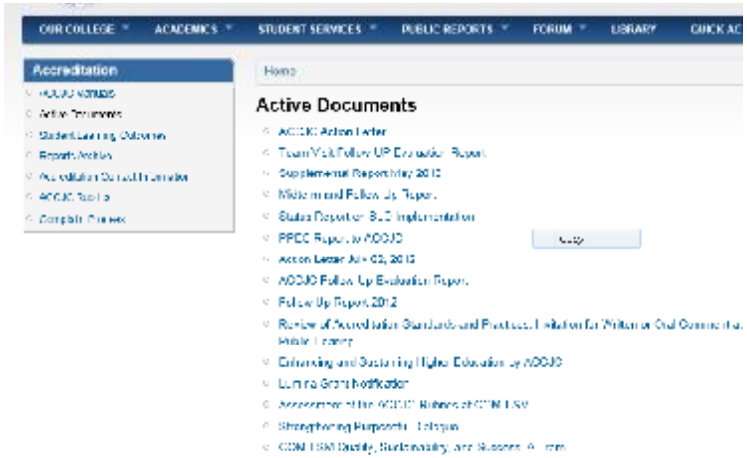
Appendix A

Inputs register

College of Micronesia, Inputs register

1 Spatial review

No.	Input	Internet link	Meridio link	Date Received
1	Links from COM _FSM website on accreditation	http://www.accjc.org/wpcontent/uploads/2013/06/Accreditation-Reference-Handbook_2013.pdf page 19  B. Physical Resources Physical resources, which include facilities, equipment, land, and other assets, support student learning programs and services and improve institutional effectiveness. Physical resource planning is integrated with institutional planning. 1. The institution provides safe and sufficient physical resources that support and assure the integrity and quality of its programs and services, regardless of location or means of delivery. a. The institution plans, builds, maintains, and upgrades or replaces its physical resources in a manner that assures effective utilization and the continuing quality necessary to support its programs and services. b. The institution assures that physical resources at all locations where it offers courses, programs, and services are constructed and maintained to assure access, safety, security, and a healthful learning and working environment. 2. To assure the feasibility and effectiveness of physical resources in supporting institutional programs and services, the institution plans and evaluates its facilities and equipment on a regular basis, taking utilization and other relevant data into account. a. Long-range capital plans support institutional improvement goals and reflect projections of the total cost of ownership of new facilities and equipment. b. Physical resource planning is integrated with institutional planning. The institution systematically assesses the effective use of physical resources and uses the results of the evaluation as the basis for improvement. http://www.comfsm.fm/accreditation/manuals/2011/Addendum-to-Std-IIID_Guide-to-Evaluating-Institutions.pdf Accreditation looks at these items for physical resources - page 52 and 53 http://www.accjc.org/wp-content/uploads/2012/08/Guide-to-		

		Evaluating-Institutions_August-2012.pdf page 44		
2	COM-FSM accreditation references from the College website	http://www.comfsm.fm/?q=accred-docs 		
3	COM-FSM Integrated Educational Masterplan	http://www.comfsm.fm/vpia/misc/IEMP.pdf Integrated educational masterplan (note item 5 - Physical facilities) http://www.comfsm.fm/vpia/misc/IEMPsheet.pdf		
4	COM-FSM Integrated Educational Masteplan reference list	Appendix A: *External Scan*. Retrieved from http://www.comfsm.fm/vpia/misc/External%20Environmental%20Scan.pdf Appendix B: *Internal Scan*. Retrieved from http://www.comfsm.fm/vpia/misc/Appendix%20B.pdf		

		Appendix C: *Determination of Future Space Needs, Financial Plan and Total Cost of Ownership. Retrieved from* http://www.comfsm.fm/vpia/misc/AppendixAJh.pdf (2013, January). *Board of Regents Strategic Institutional Outcomes and Input for the COM-FSM Vision*. Retrieve from http://www.comfsm.fm/vpia/misc/COM.Strategic.Institutional.Outcomes.2013.docx (2013, January). *Board of Regents Two-Year Action Agenda (2013-2015)*. Retrieved from http://www.comfsm.fm/vpia/misc/Two.Year.Action.Agenda.2013.docx COM-FSM. (2011, February). *College of Micronesia Technology Plan*. Retrieved from http://www.comfsm.fm/irpo/files/masterplan/Technology-Plan-CURRENT-2011_02.pdf COM-FSM. (2013, April). The College of Micronesia – FSM Strategic Plan 2013-2017 draft. Retrieved from http://wiki.comfsm.fm/@api/deki/files/2286/=Strategic-Plan-Draft_6APR13.pdf COM-FSM. (2012, May). *Integrated Educational Master Plan Template*. Retrieved from COM-FSM Council of Chairs. (2012, May). *Participatory Governance Policy at COM-FSM.* Retrieved from http://www.comfsm.fm/accreditation/files/5-15/Participatory-Governance-Policy.pdf Daisy, J. M. (2012, August). *College of Micronesia – FSM: Summit 2012*. Retrieved from http://www.comfsm.fm/irpo/visioning-summit/Visioning-Summit-2012-REPORT.pdf Daisy, J. M. (2012, February). *Confronting challenges...creating our future: President Daisy delivers his investiture address*. Retrieved		

		from http://www.comfsm.fm/myShark/news/item=144/mod=00:58:20 Daisy, J. M. (2012, April). *COM-FSM Quality, Sustainability, and Success: A Framework for Planning and Action*. http://www.comfsm.fm/irpo/visioning-summit/White-Paper.pdf		
5	COM-FSM - other reports	COM-FSM. (2011, February). College of Micronesia Technology Plan. http://www.comfsm.fm/irpo/files/masterplan/Technology-Plan-CURRENT-2011_02.pdf http://www.comfsm.fm/vpa/er/Emergency_Response_Plan.pdf Total cost of ownership – information on student numbers, campus size and financial info (ops and maintenance) Appendix C: Determination of Future Space Needs, Financial Plan and Total Cost of Ownership. Retrieved from http://www.comfsm.fm/vpia/misc/AppendixAJh.pdf Appendix A: External Scan. Retrieved from http://www.comfsm.fm/vpia/misc/External%20Environmental%20Scan.pdf External environmental scan – population nos. Appendix B: Internal Scan. Retrieved from http://www.comfsm.fm/vpia/misc/Appendix%20B.pdf student numbers and split (2744 students in 2012) http://www.comfsm.fm/vpia/misc/Two.Year.Action.Agenda.2013.docx http://www.comfsm.fm/irp/Planning/Strategic_Plan_2013_17.pdf		

Appendix B

Request for information

Request for Information Register

Job Name	College of Micronesia Facilities Masterplan

No.	Description	Date Requested	Originator	Beca internal ref (Meridio file no)	Notes on information received
001	Pohnpei campus – building numbers and site information	22/05/2013	Annette Jones	7704217	
002	National campus - building numbers and site information	27/05/2013	Annette Jones		
003	Summary of plan and site information held by the College	27/05/2013	Annette Jones		Site surveys received in cad and.pdf format for all campuses except FSM-FMI campus on Yap
004	Request for information No004 - Chuuk, Yap, Kosrae and FSM-FMI Campus building number and names	30/05/2013	Annette Jones	7704167	
005	College of Micronesia - FSM, National Campus - Building Services Infrastructure Questionnaire	31/05/2103	Mark Wilson		
006	College of Micronesia - FSM, Request for Information No 006 Pohnpei Campus - Building Services Infrastructure Questionnaire	3/06/ 2013	Mark Wilson		
007	College of Micronesia - FSM, Request for Information No 007 Chuuk Campus - Building Services Infrastructure Questionnaire (2).xlsx	5/6/2013	Mark Wilson		
008	RE: College of Micronesia - FSM, Request for Information No 008 FSM-FMI Campus - Building Services Infrastructure Questionnaire (2).xlsx	5/6/2013	Mark Wilson		
009	College of Micronesia - FSM, Request for Information No 009 Kosrae Campus - Building Services Infrastructure Questionnaire (2).xlsx	5/6/2013	Mark Wilson		
010	College of Micronesia - FSM, Request for Information No 010 Yap Campus - Building Services Infrastructure Questionnaire (2).xlsx	5/6/2013	Mark Wilson		

Request for Information Register

011	College of Micronesia, FSM Masterplan - Request for Information 011 - - Review and update on Pohnpei Campus information	17/06/2013	Annette Jones	7704135	
012	College of Micronesia, FSM Masterplan - Request for Information 011 - - Review and update on National Campus information	17/06/2013	Annette Jones	7569927	
013	College of Micronesia, FSM Masterplan - Request for Information 011 - - Review and update on Kosrae Campus information	17/06/2013	Annette Jones	7569929	
014	College of Micronesia, FSM Facilities Masterplan - Request for Information 014 - Confirmation of buidings that are maintained by COM-FSM for inclusion in the building condition assessment	18/07/13	Annette Jones		

Appendix C

Schedule of available building information

Number of Facilities for COM-FSM

National Campus				
No.	**Building Decription**	**Buildings**	**Blue Print (Floor Plan)**	**Room Number**
1	Classroom	A	Available	Available
2	Classroom	B	Available	Available
3	Cafeteria	C	Available	Not Available
4	Male Residence Hall	D	Available	Available
5	Female Residence Hall	E	Available	Available
6	Faculty Office	F	Available	Available
7	Faculty Office	F2	Available	Available
8	Administration	G	Available	Not Available
9	LRC	H	Available	Not Available
10	Agriculture	I	Available	Not Available
11	A+Plus Center	J	Available	Not Available
12	Student Services	K	Available	Not Available
13	Gymnasuim	L	Available	Not Available
14	IT Shop/Fitness room/Storage	M	Available	Not Available
15	Maintenance Office & Shop /CRE Office/Music	N	Available	Not Available
	LPG Gas house			
	Generator Building Station-1			
	Generator Building Station-2			
	Pig pen-1			
	Pig Pen-2			

Pohnpei Campus			Blue Print (Floor Plan)	Room Number
No.	**Building Decription**	**Buildings**		
1	Administration Building	A	Available	Not Available
2	HTM Classroom	B	Not Available	Not Available
3	Nahs	C	Not Available	Not Available
4	Electronics Classrooms 8&9/Math Science Office	D	Not Available	Not Available
5	Classroom 1-4	E	Available	Available
6	Classroom 5-7	F	Available	Available
7	Bookstore	G	Not Available	Not Available
8	Security Post	H	Not Available	Not Available
9	IT shop	I	Not Available	Not Available
10	UB & TSP (TRIO Programs)	J	Not Available	Not Available
11	PSBDC Building	K	Available	Not Available
12	Electrical Shop	L	Not Available	Not Available
13	Maintenance Shop	M	Not Available	Not Available
14	Gym & Student Service Center	N	Not Available	Not Available
15	COM Land Grant	O	Not Available	Not Available
16	Mechanic and AC refrgierations Shop	P	Not Available	Not Available
17	Carpentry Shop/Classrooms	Q	Not Available	Not Available

Chuuk Campus			Blue Print (Floor Plan)	Room Number
No.	**Building Decription**	**Buildings**		
1	Administration Building		Not Available	Not Available
2	Faculty Office	A	Available	Not Available
3	Student Center		Not Available	Not Available
4	Computer Lab		Available	Not Available
5	Library		Available	Not Available
6	Student Support Services		Available	Not Available
7	Classroom	B	Available	Available
8	Classroom	C	Available	Available
9	Land Grant		Available	Not Available
10	Restroom Facility		Available	Not Available
	Generator house			
	Generator house			

Kosrea Campus			Blue Print (Floor Plan)	Room Number
No.	**Building Decription**	**Buildings**		
1	Administration Building		Available	Not Available

2	Land Library and VOCED Classrooms	Available	Not Available
3	Faculty Office	Not Available	Not Available
4	Land Grant Office	Not Available	Not Available
5	Maintenance Office/Shop	Not Available	Not Available
6	Land Grant Research Laboratory	Not Available	Not Available

Yap Campus			Blue Print (Floor Plan)	Room Number
No.	**Building Decription**	**Buildings**		
1	Administration Building		Available	Not Available
2	Computer Lab		Not Available	Not Available
3	Land Grant Research Lab		Not Available	Not Available
4	Science Laboratory		Not Available	Not Available
5	Vocational Building		Not Available	Not Available
6	Student Center		Not Available	Not Available
7	Classroom building		Not Available	Not Available
8	Student Open lounge		Not Available	Not Available
9	New Student Center			
10	New Classroom Building			

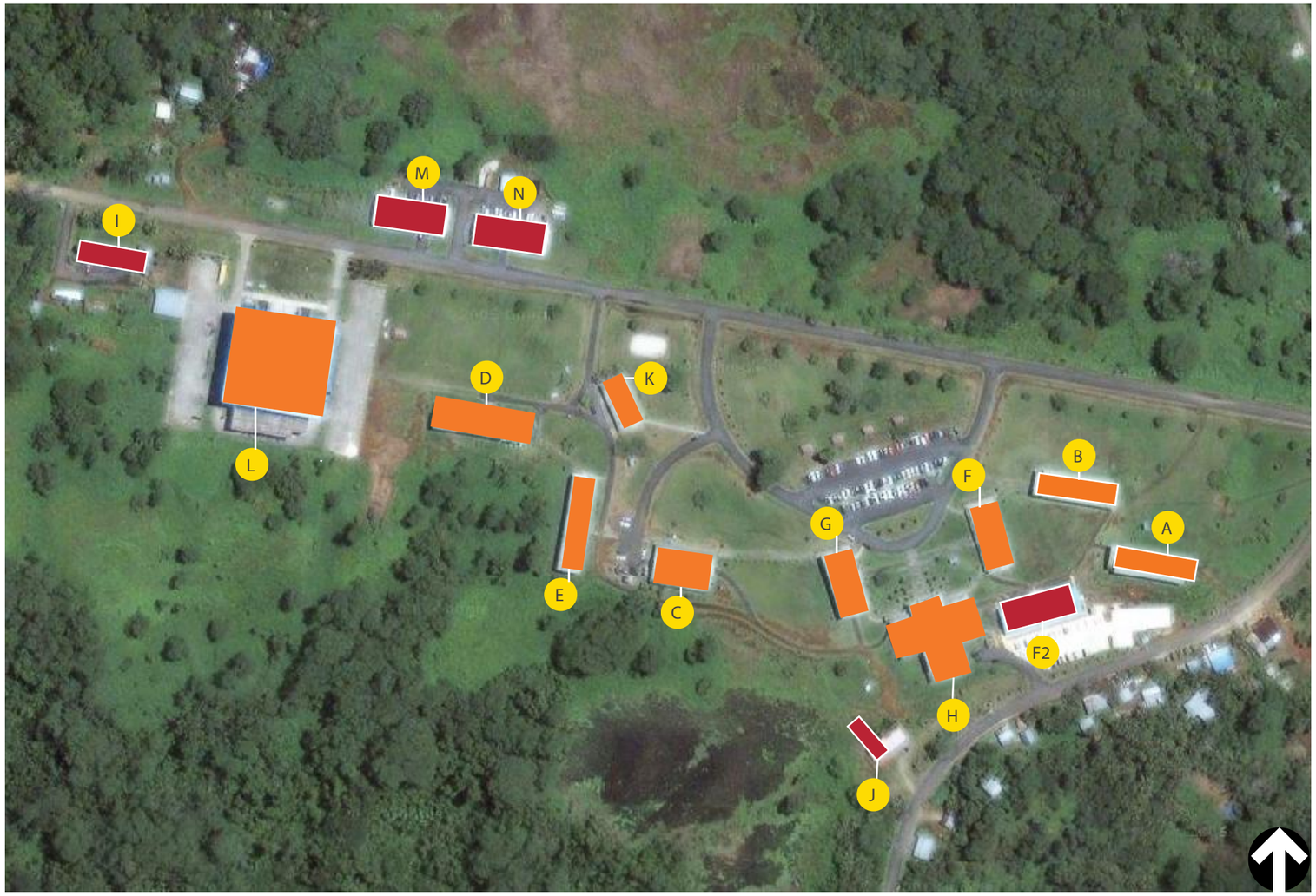
	FSM-FMI	Blue Print (Floor Plan)	Room Number
1	Administration/Student Service and Residence Hall/Mess hall	Not Available	Not Available
2	Staff housing	Not Available	Not Available
3	Classrooms, Library and Shops	Not Available	Not Available
4	Maintenance	Not Available	Not Available

Appendix D

Campus directory for the Facilities Masterplan

Director of Facilities and Security: Francisco W. Mendiola

No.	Building Description	Remarks
A	Specialized classrooms (Building A)	2 storey
B	Standard classrooms (Building B)	2 storey
C	Cafeteria	
D	Men's Dormitory	2 storey
E	Women's Dormitory	2 storey
F	Faculty Offices (old)	
F2	Faculty Offices (new)	
G	Administration	2 storey
H	Learning Resources Center and MITC	2 storey
I	Agriculture	
J	A + Center and Art Classroom	
K	Book store, Dispensary	
L	FSM - China Friendship Sports Center	
M	Security, Maintenance, IT Shop	
N	Maintenance, CRE, Music Classroom	



Floor plans received

Floor plans not available and basic site measure completed

0 100 200 400ft

Campus Dean: Ms. Lourdes Roboman

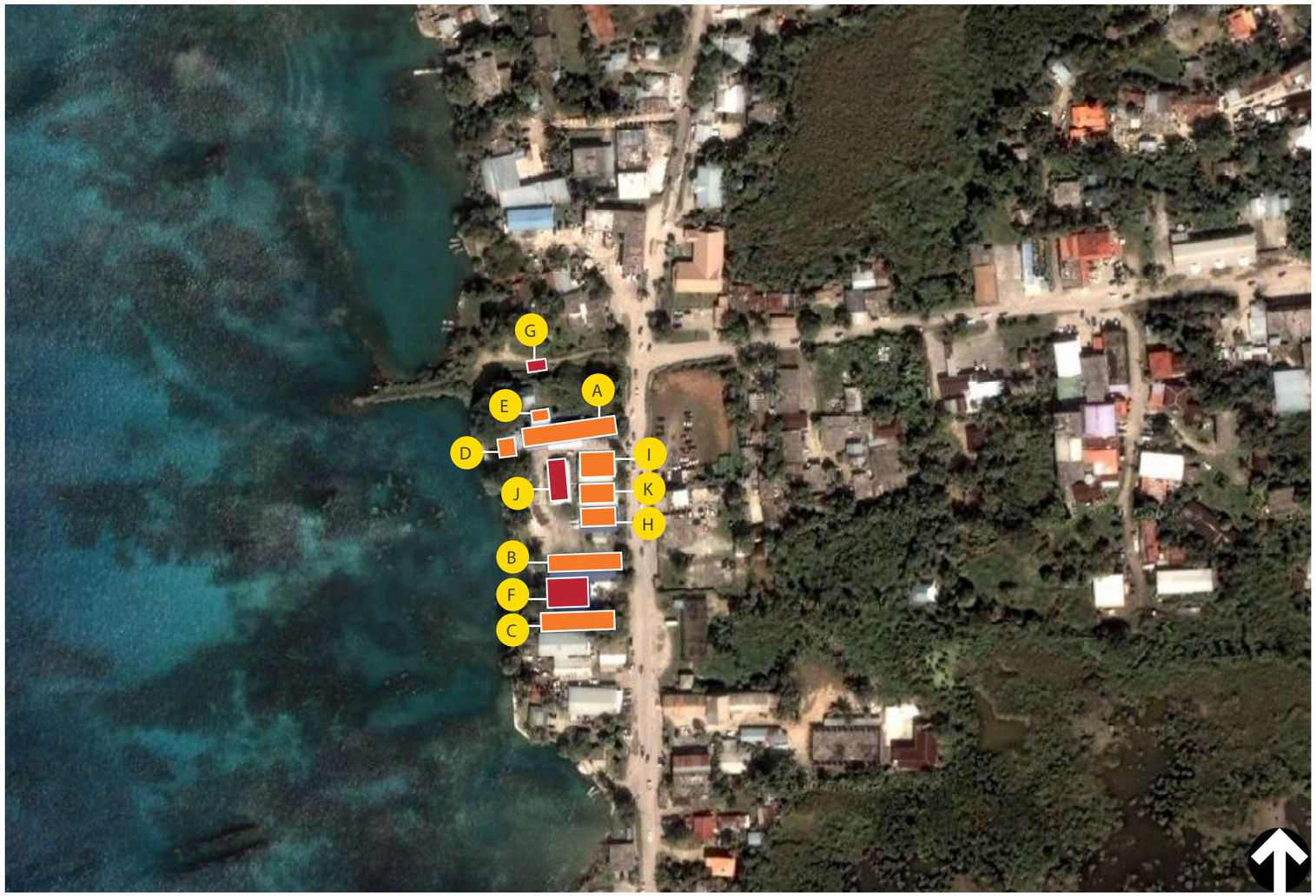
No.	Building Description	Remarks
A	Administration building	
-	Classrooms	
-	Bookstore	
B	Computer Lab	
C	CRE Building	
D	Science Laboratory	
-	Library	
-	Science Lab	
E	Student Center Building	
F	Classroom Building 6	
G	Vocational Building	
H	Student Open Lounge	

Floor plans received

Floor plans not available and basic site measure completed

Campus Dean: Mr. Kind Kindo

No.	Building Description	Remarks
A	Faculty Office	
B	Classroom Building B	
C	Classroom Building C	
D	Director's Office	
E	Restrooms	
F	Research Lab	
G	Generator House	
H	Student Services Building	
I	Computer Lab	
J	Student Center	
K	Learning Resources Center	



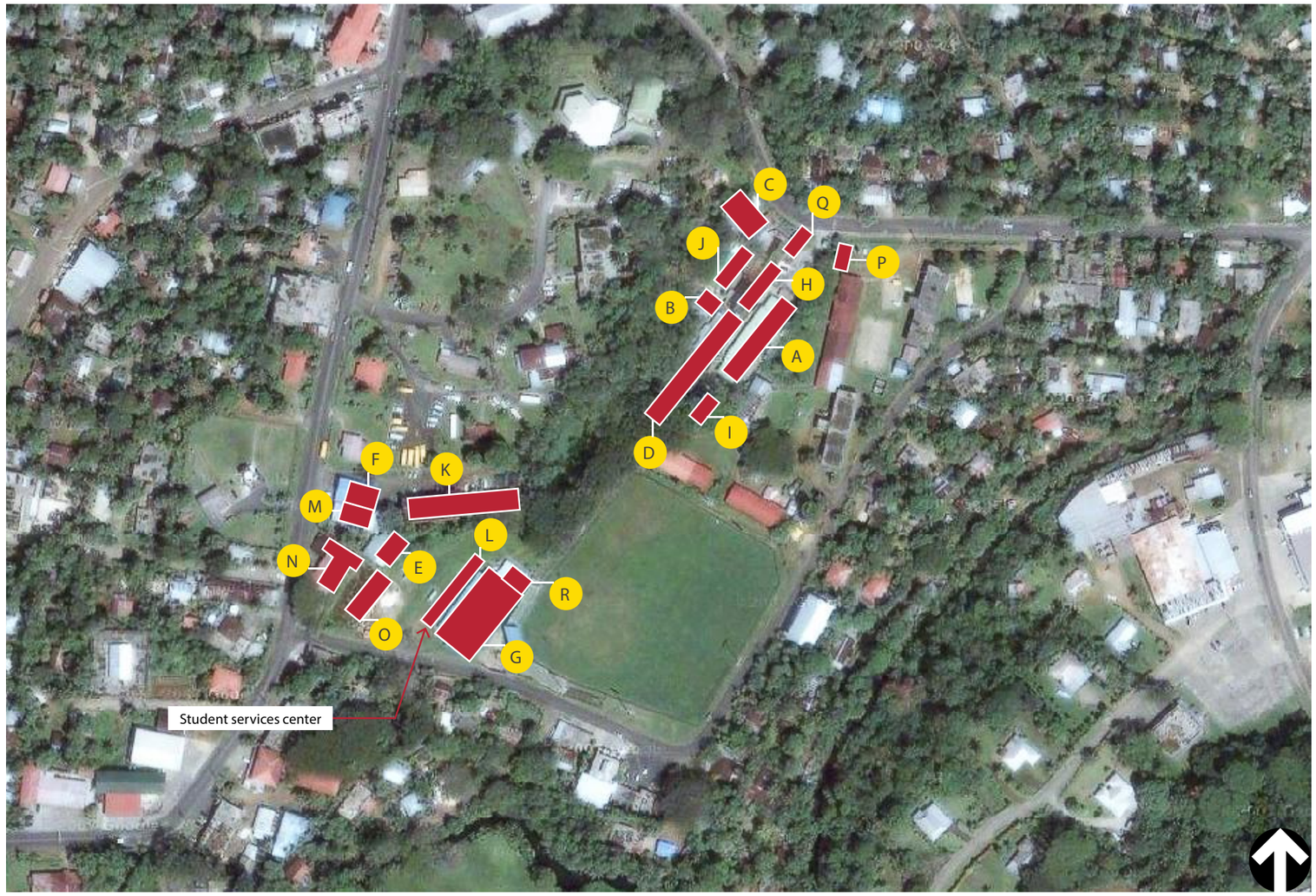
Floor plans received

Floor plans not available and basic site measure completed

0 100 200 400ft

Campus Dean: Mr. Grilly Jack

No.	Building Description	Remarks
A	Administration Building	
B	Bookstore	
C	I.C. Building	
D	Classroom Building A	
E	Electrical Building	
F	Carpentry Shop	
G	Gymnasium	
H	Hotel and Tourism Building	
I	IT Shop	
J	Classroom Building B	
K	Vocational classrooms, TSP, UB, CES	
L	Student Services Center	
M	Mechanic Shop	
N	Land Grand Building	
O	PSBDC Building	
P	Security Shed	
Q	Nahs	
R	Maintenance Building	

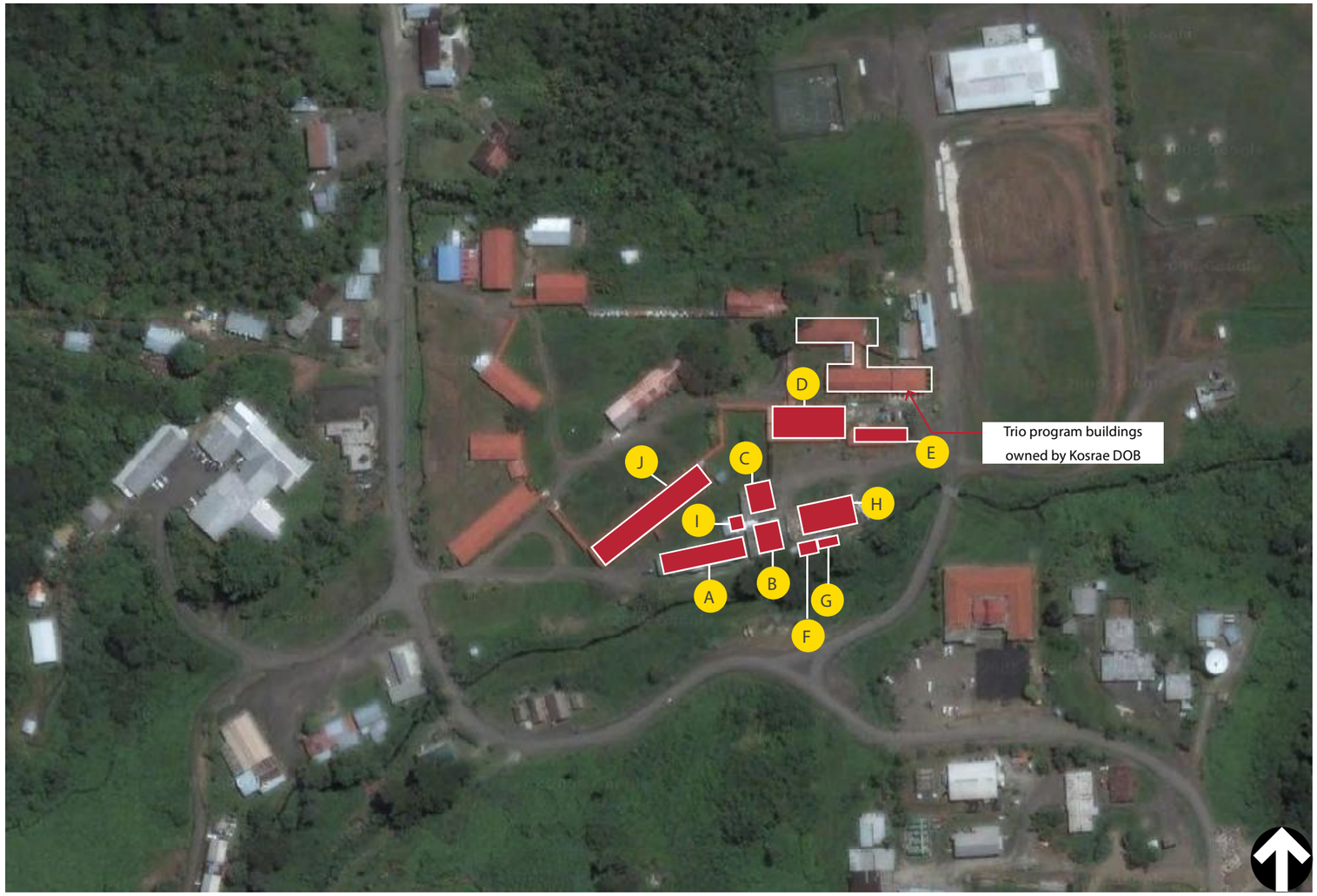


Floor plans received

Floor plans not available and basic site measure completed

Campus Dean: Mr. Kalwin Kephas

No.	Building Description	Remarks
A	Administration Building/ Classrooms	
B	Land Grant Building	
C	Faculty Building	
D	Rose Mackwelung Library	
E	Gear Up Program	
F	Mechanic Shop	
G	Woodshop	
H	KSBDC Building	
I	Bookstore	
J	Learning Resources and Career Development	



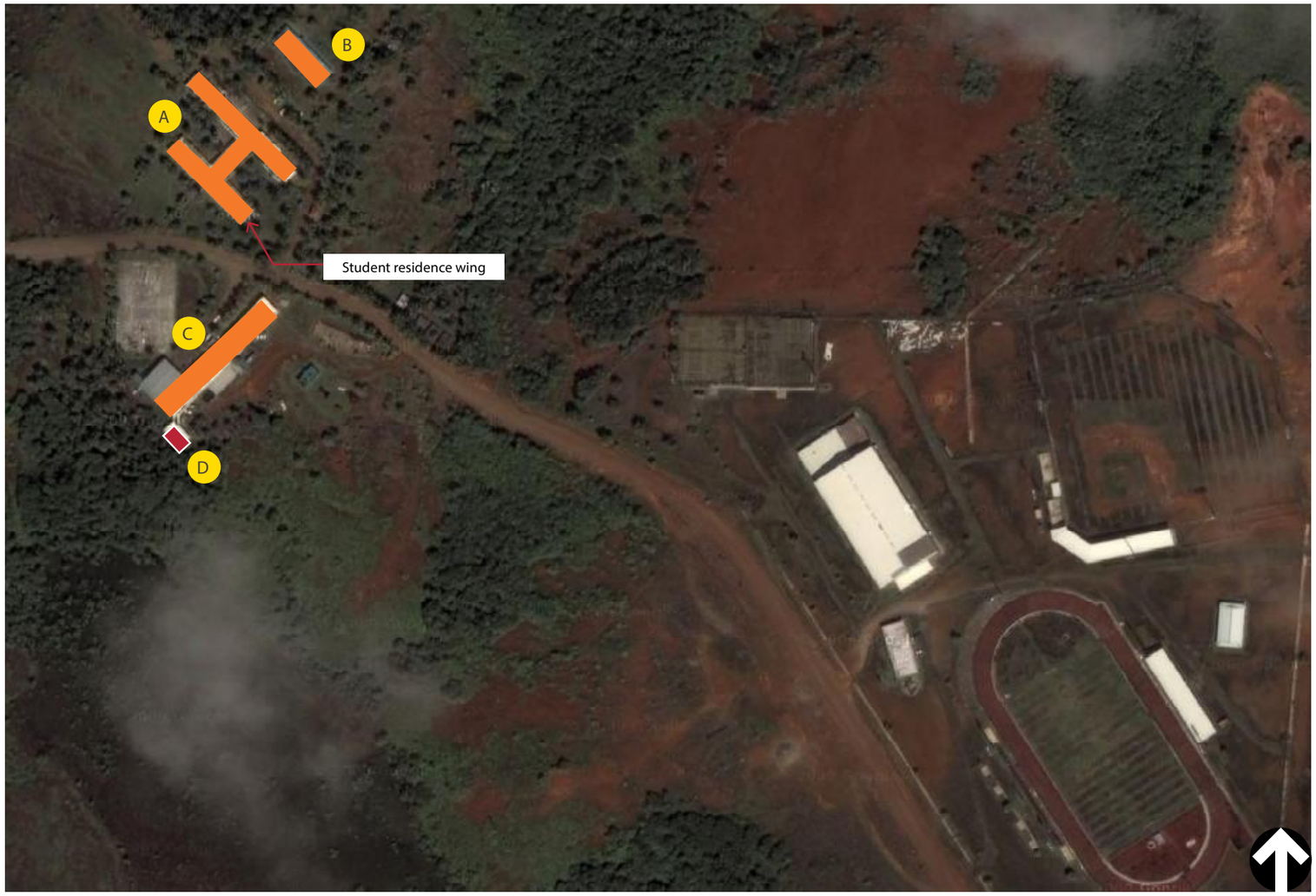
Floor plans received

Floor plans not available and basic site measure completed

0 100 200 400ft

FMI Program Director: Mr. Matthias Ewarmai

No.	Building Description	Remarks
A	Administration/Student Service and Residence Hall/Mess hall	
B	Staff housing	
C	Classrooms, Library and Shops	
D	Maintenance office	



Floor plans received

Floor plans not available and basic site measure completed

0 100 200 400ft

Appendix E

COM-FSM Personnel list

BOARD OF REGENTS

KASIO E. MIDA, Chair ..... FSM Government
LYNDON CORNELIUS, Vice Chairman .....State of Kosrae
MARY B. FIGIR, Secretary – Treasurer .....State of Yap
CHURCHILL EDWARD, Member.....State of Pohnpei
GRACEFUL ENLET, Member .....State of Chuuk

ADMINISTRATION

OFFICE OF THE PRESIDENT

DAISY, JOSEPH M.
President and Chief Executive Officer
B.A., Suffolk University, Boston
M.Ed., Suffolk University, Boston
Ed.D., Nova Southeastern University, Florida

CURRIE , WALTER JAMES
Vice President, Cooperative Research & Extension
B.S., McGill University, Montreal, Canada
M.P.S., Cornell University, New York

DEREAS, MARIANA BEN
Vice President, Instructional Affairs
B.A., University of Hawaii at Hilo
M.A., University of Hawaii at Manoa

VACANT
Vice President
Student Services

HABUCHMAI, JOSEPH
Vice President, Administrative Services
A.S., Community College of Micronesia
B.S., Concordia Teachers College, Nebraska
M.A., Concordia Teachers College, Nebraska

HARRISS, FRANKIE
Vice President
Institutional Effectiveness and Quality Assurance
B.S., San Diego State University
M.S., University of South Florida
(In Progress) Ed.D.,University of Liverpool, UK

DEPARTMENT OF ADMINISTRATIVE SERVICES

HABUCHMAI, JOSEPH
Vice President

DUMANTAY, DANILO
Comptroller
B.S.C., Polytechnic University of the Philippines
C.P.A., Philippines Accountancy Board
C.G.F.M., U.S. Association of Government Accountants
M.B.A., De La Salle University, Philippines
A.I.F., Accredited Investment Fiduciary, USA

MENDIOLA, FRANCISCO
Director of Maintenance, Facilities and Security
Journeyman Certificate, U.S. Department of Labor
Journeyman Certificate, U.S. Navy Public Works Department

NELSON, RENCELLY
Director of Human Resources
B.A., University of Hawaii at Hilo
M.A., Southern Cross University, Australia

DEPARTMENT OF INSTRUCTIONAL AFFAIRS

BEN DEREAS, MARIANA
Vice President

HAINRICK, JENNIFER
Director of Learning Resources Center
A.A., Liberal Arts, College of Micronesia-FSM
B.A., Elementary Education, UOG/COM-FSM
(In Progress) MLS, University of North Taxes

JACK, GRILLY
Director of Career and Technical Education
University of Hawaii at Hilo
USDOL Journeyman Certificate in Electrical
US Marine Corps Journeyman Certificate in Electrical

KANTO, KIND
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B.S., University of Oregon
M.A., University of Guam

KEPHAS, KALWIN
Dean of Kosrae Campus
B.A., Alliant International University, California
M.S., Walden University, Minnesota

ROBOMAN, LOURDES
Dean of Yap Campus Dean
B.A., Creighton University, Nebraska

SIMION, KAREN
Dean of Academic Programs
B.S., University of Kansas
M.A., University of Guam

DEPARTMENT OF STUDENT SERVICES

ETSE, PENSELYNN O.
B.A., University of Hawaii at Hilo
M.S., Capella University

HALEYALIG, IGNATIUS
Director of FAO
A.S., Community College of Micronesia
B.A., Sanoma State University

ODUCADO, JOEY
Director of Admissions, Records, & Retention
A.B., Aklan College
M.A., San Diego State University

WALLIBY, ERMINE MEFY SELIFIS
Coordinator, Peer Counseling
B.S., Eastern Washington University

DEPARTMENT OF INSTITUTIONAL EFFECTIVENESS AND QUALITY ASSURANCE

HARRISS, FRANKIE
Vice President

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B.A., Auburn University, Alabama

PERKINS, CHRISTOPHER ROSS
Assessment Coordinator and Assistant Accreditation Liaison Officer
B.A., Southeastern University
M.A., Iliff School of Theology

SANTOS, JUAN PAULO
Administrative Specialist I,Development and Community Relations
B.S., AMA Computer College

SEGAL, GORDON
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B.A., University of Hawaii at Hilo
M.A., San Diego State University

DEPARTMENT OF COOPERATIVE RESEARCH & EXTENSION

CURRIE, WALTER JAMES
Vice President

ABBE, MIKE
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B.A., Appalachian Bible College

IOANIS, ENGLY
CRE Coordinator, Pohnpei
B.A., Lubbock Christian College
M.S., University of Hawaii at Manoa

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B.S., Missouri Valley College

MURUKESAN, V.K.
Horticulture Researcher, Yap
B.S., University of Kerala, India
M.S., Ganahji University, India
Ph.D., University of Baroda, India

RAGUS, LOLITA
Researcher, Chuuk
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M.S., University of the Philippines at Los Banos
P.h.D., University of Illinois at Urbana-Champaign

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M.S., University of Ajmer, India
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B.A., University of the South Pacific

NATIONAL CAMPUS FULL TIME FACULTY

ANDREAS, ROBERT
Education
A.A., Community College of Micronesia
B.A., University of Guam
M.A., University of Hawaii at Manoa

BENJAMIN, KATHLEEN
Nursing
B.S., University of Guam
M.P.H., University of Hawaii at Manoa

BIZA, LEILANI
Languages/Literature
B.A., University of Guam
(In Progress) M.A., Reading, UOG

BIZA, SNYTHER
Math/Science
A.A., College of Micronesia-FSM
Advanced Diploma, Bendigo Institution of Technology, Australia
M.G.I.S., University of Queensland, Australia

BOURGOIN, ALLAIN
Math/Science
B.S., University of Moncton, Canada
M.S., University of Occidental Brittany
P.h.D., University of Occidental Brittany

BUDEN, DONALD
Math/Science
B.S., University of Miami, Florida
M.S., Louisiana State University
Ph.D., Louisiana State University

CASTRO, EDPER
Business Administration
B.S., Cebu Institution of Technology
D.C.S., University of the Philippines
M.A., University of the Philippines

DACANAY, PAUL
Public Health
B.S., University of Santo Tomas
M.D., Saint Louis University

DACANAY, RUDELYN
Nursing
B.S., Nursing, University of San Agustine, Philippines

DEMA, MIHAI-THEODOR
Math/Science
B.S., University of Medicine, Romania
M.S., University of Medicine, Romania
M.D., University of Medicine, Romania

FELIX, JOSEPH, JR.
Chair, Business Administration
B.A., Park College, Missouri
M.S., National University

GALLEN, PAUL
Education
B.A., University of Guam
M.Ed., University of Hawaii at Manoa

GARCIA, REYNALDO
Math/Science
B.S., Saint Louis University, Philippines
M.A., Pangasinan State University, Philippines

GEARHART, DENNIS
Math/Science
B.A., Shippensburg University, Pennsylvania
M.S., Shippensburg University, Pennsylvania
M.S., Virginia Technology

GONZALES, JAZMIN
Coordinator, HCOP
Math/Science
B.S., Central Philippines University
M.A., University of the Philippines

HAGLELGAM, JOHN
Social Science
B.A., University of Hawaii
M.A., University of Hawaii
M.P.A., Harvard University

HALLERS, MAGDALENA
Education
A.A., Community College of Micronesia
B.A., University of Guam
M.Ed., University of Guam

HAYES, KATHY
Math/Science
B.Sc., University of Liverpool
P.h.D., University of Leeds

IKOLI, ILONGO
Public Health
B.A., Psychology and Biology, Texas Southern University
M.P.H., University of Oklahoma Health Services Center
Ed.D., Teachers College Columbia University

KAMIKUBO,AKIKO
Languages/Literature
B.A.,Tokyo University of Foreign Studies
M.A.,Tokyo University of Foreign Studies

KELLER, RESIDA
Languages/Literature
B.A., Brigham Young University-Hawaii
M.Ed, San Diego State University

KOSTKA, MARK
Math/Science
B.A., University of Hawaii at Hilo

LEE LING, DANA
Math/Science
B.S., University of Illinois
M.S., University of Illinois

LYNCH, BRIAN
Math/Science
B.S., University of New York, Cobleskill
M.S., University of Louisiana-Monroe

MADISON, MARIA CHRISTINA
Languages/Literature
B.A., Eckerd College, Florida
M.F.A., National University, California

MANGONON, GEORGE
Business Administration
B.S., University of the Philippines, Philippines
M.B.A.,Virgen Milagrosa University Foundation, Philippines

MANGONON, MARLENE
Business Administration
B.S., Polytechnic University of the Philippines
M.B.A., Virgen Milagrosa University, Philippines

MANUEL-EHMES, DELIHNA
Social Science
A.A., College of Micronesia-FSM
Certificate in Clinical Psychology, UH Manoa
B.S., Missouri Southern State College
M.S., Capella University

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Secretary II, Campus Dean's Office

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SIVER, BERIKITA
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TALIMELIB, VINCENT
COOK III, Dining Hall

YAISOLUG, RUFUS
Student Services Assistant, RH

YORUW, AIDEN
Maintenance Worker

Appendix B

Educational Assessment Component - Classroom capacities

Classroom Capacities Used

Campus, Building - Room	Room Capacity to Use for Calculations	Source - Room Capacity to Use for Calculations
Chuuk, Building B - Rm 101	30	maintenance data supplied by COM-FSM
Chuuk, Building B - Rm 102	30	maintenance data supplied by COM-FSM
Chuuk, Building B - Rm 103	30	maintenance data supplied by COM-FSM
Chuuk, Building B - Rm 104	30	maintenance data supplied by COM-FSM
Chuuk, Building C - Rm 101	25	maintenance data supplied by COM-FSM
Chuuk, Building C - Rm 102	25	maintenance data supplied by COM-FSM
Chuuk, Building C - Rm 103	25	maintenance data supplied by COM-FSM
Chuuk, Building C - Rm 104	25	maintenance data supplied by COM-FSM
Chuuk, Building D - Vocational Room 1	16.5	overall class schedule avg
Chuuk, Computer Lab Building - Computer Lab 1	30	maintenance data supplied by COM-FSM
Chuuk, Mid Town - CMT Room 101	19.1	overall class schedule avg
FMI, Cafeteria - Mess Hall	85	maintenance data supplied by COM-FSM
FMI, Training Building - Engineering Classroom	22	maintenance data supplied by COM-FSM
FMI, Training Building - Engineering Lab	20.0	overall class schedule avg
FMI, Training Building - Fishing Lab	20	20 (from COM-FSM email)
FMI, Training Building - FMI Computer Lab	20	20 (from COM-FSM email)
FMI, Training Building - Navigation Classroom	29.7	overall class schedule avg
FMI, Training Building - Navigation Lab	27.5	overall class schedule avg

FMI, Training Building - Seaman's Shelter	50	50 (from COM-FSM email)
Kosrae, Administration Building - Computer Lab	30	maintenance data supplied by COM-FSM
Kosrae, Administration Building - Room 105	30	maintenance data supplied by COM-FSM
Kosrae, Administration Building - Science Lab	24	maintenance data supplied by COM-FSM
Kosrae, Carpentry Shop - Carpentry Shop	16.3	overall class schedule avg
Kosrae, ET & C Building - Electronic and Telecommunication Room	15	maintenance data supplied by COM-FSM
Kosrae, Gym - Gym	20.8	overall class schedule avg
Kosrae, Rose Mackwelung Library - Conference Room	20.7	overall class schedule avg
Kosrae, Small Business Dev't Center - Learning Resource 1	24	maintenance data supplied by COM-FSM
Kosrae, Small Business Dev't Center - Learning Resource 2	24	maintenance data supplied by COM-FSM
National, A plus Center - Fine Arts Room	25	maintenance data supplied by COM-FSM
National, Agriculture - Agriculture	21.4	overall class schedule avg
National, Classroom A - Room A101	20	maintenance data supplied by COM-FSM
National, Classroom A - Room A102	20	maintenance data supplied by COM-FSM
National, Classroom A - Room A103	16	maintenance data supplied by COM-FSM
National, Classroom A - Room A202	30	maintenance data supplied by COM-FSM
National, Classroom A - Room A203	30	maintenance data supplied by COM-FSM
National, Classroom A - Room A204	30	maintenance data supplied by COM-FSM
National, Classroom B - Room B101	26	maintenance data supplied by COM-FSM

National, Classroom B - Room B102	30	maintenance data supplied by COM-FSM
National, Classroom B - Room B103	26	maintenance data supplied by COM-FSM
National, Classroom B - Room B104	26	maintenance data supplied by COM-FSM
National, Classroom B - Room B105	26	maintenance data supplied by COM-FSM
National, Classroom B - Room B201	26	maintenance data supplied by COM-FSM
National, Classroom B - Room B202	26	maintenance data supplied by COM-FSM
National, Classroom B - Room B204	26	maintenance data supplied by COM-FSM
National, Classroom B - Room B205	26	maintenance data supplied by COM-FSM
National, Classroom B - Room B206	26	maintenance data supplied by COM-FSM
National, Faculty A - Ed Computer Lab	15	maintenance data supplied by COM-FSM
National, Gymnasium - Main Gym	24.3	overall class schedule avg
National, Gymnasium - Weight Room	21.0	overall class schedule avg
National, Nursing Room - Nursing Room 1	19.2	overall class schedule avg
National, Nursing Room - Nursing Room 2	22.5	overall class schedule avg
National, Other - TBA	30.2	overall class schedule avg
Pohnpei, Administration Bldg - Room 11	24.6	overall class schedule avg
Pohnpei, Administration Bldg - Room 12	23.9	overall class schedule avg
Pohnpei, Blue Plate Cafe - BPC Room	22.2	overall class schedule avg
Pohnpei, Building A - Business Computer Lab	25	maintenance data supplied by COM-FSM
Pohnpei, Building A - Room 1	25	maintenance data supplied by COM-FSM
Pohnpei, Building A - Room 2	25	maintenance data supplied by COM-FSM

Pohnpei, Building A - Room 3	25	maintenance data supplied by COM-FSM
Pohnpei, Building A - Room 4	25	maintenance data supplied by COM-FSM
Pohnpei, Building B - Room 5	25	maintenance data supplied by COM-FSM
Pohnpei, Building B - Room 6	25	maintenance data supplied by COM-FSM
Pohnpei, Building B - Room 7	25	maintenance data supplied by COM-FSM
Pohnpei, Gymnasium - Gym	28.2	overall class schedule avg
Pohnpei, Instructional Bldg - Room 8	22.9	overall class schedule avg
Pohnpei, Instructional Bldg - Room 9	16.8	overall class schedule avg
Pohnpei, Other - TBA	8.5	overall class schedule avg
Pohnpei, PSBDC Building - Classroom 1	30	maintenance data supplied by COM-FSM
Pohnpei, PSBDC Building - Classroom 2	30	maintenance data supplied by COM-FSM
Pohnpei, Vocational Education Bldg - Electrical	15	maintenance data supplied by COM-FSM
Pohnpei, Vocational Education Bldg - Vocational Room 7	13	maintenance data supplied by COM-FSM
Pohnpei, Vocational Education Bldg - Vocational Room 8	20	maintenance data supplied by COM-FSM
Pohnpei, Vocational Education Bldg - Vocational Room/Shop 6	11	maintenance data supplied by COM-FSM
Yap, Administration Building - Administration 1	24.6	overall class schedule avg
Yap, Computer Lab - Computer Lab 1	30	maintenance data supplied by COM-FSM
Yap, Science Lab Building - Science Lab	30	maintenance data supplied by COM-FSM
Yap, Vocational Education Bldg - VocEd 1	15	maintenance data supplied by COM-FSM
Yap, Vocational Education Bldg - VocEd 3	15	maintenance data supplied by COM-FSM

Yap, Vocational Education Bldg - VocEd Laboratory	15	maintenance data supplied by COM-FSM
Yap, Yap Memorial Hospital - Yap Memorial Hospital	20.7	overall class schedule avg
Yap, Yap State Court - Yap State Court	20.9	overall class schedule avg

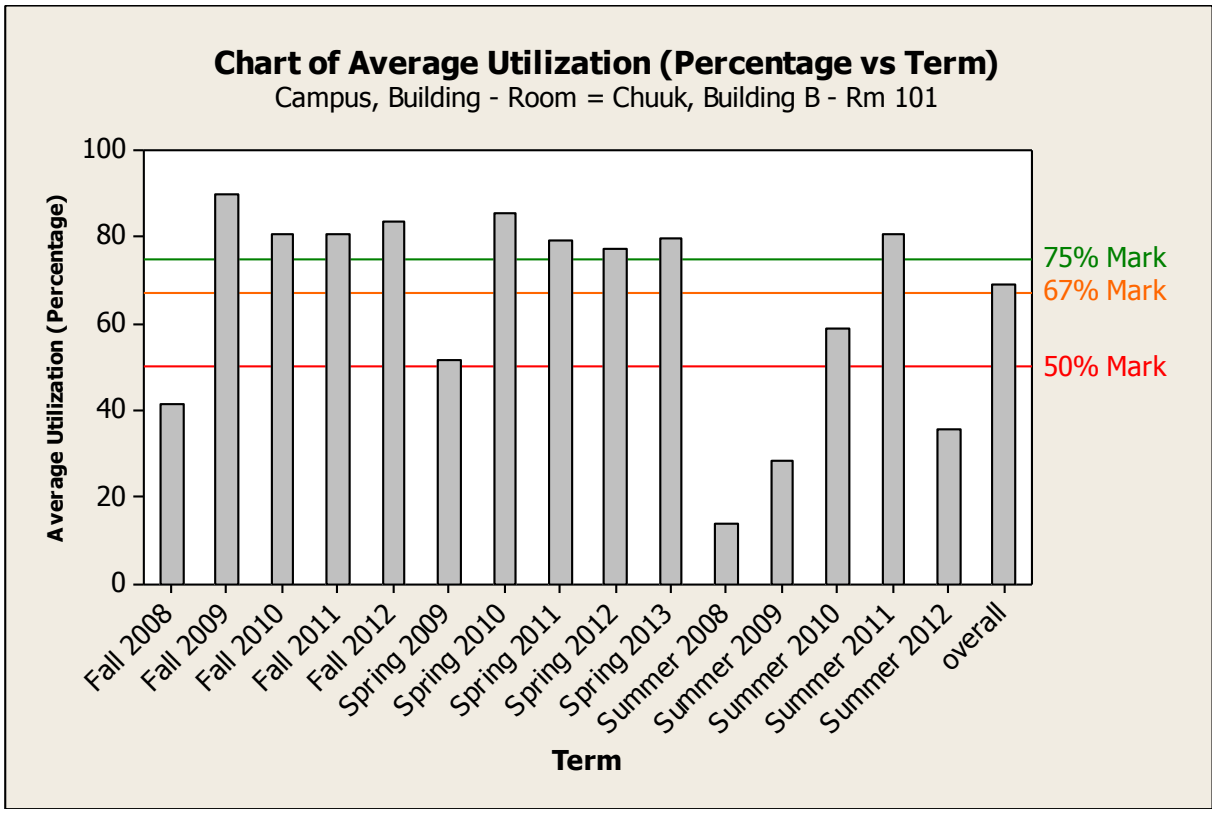
Appendix C

Education Assessment Component - Classroom Utilization Charts

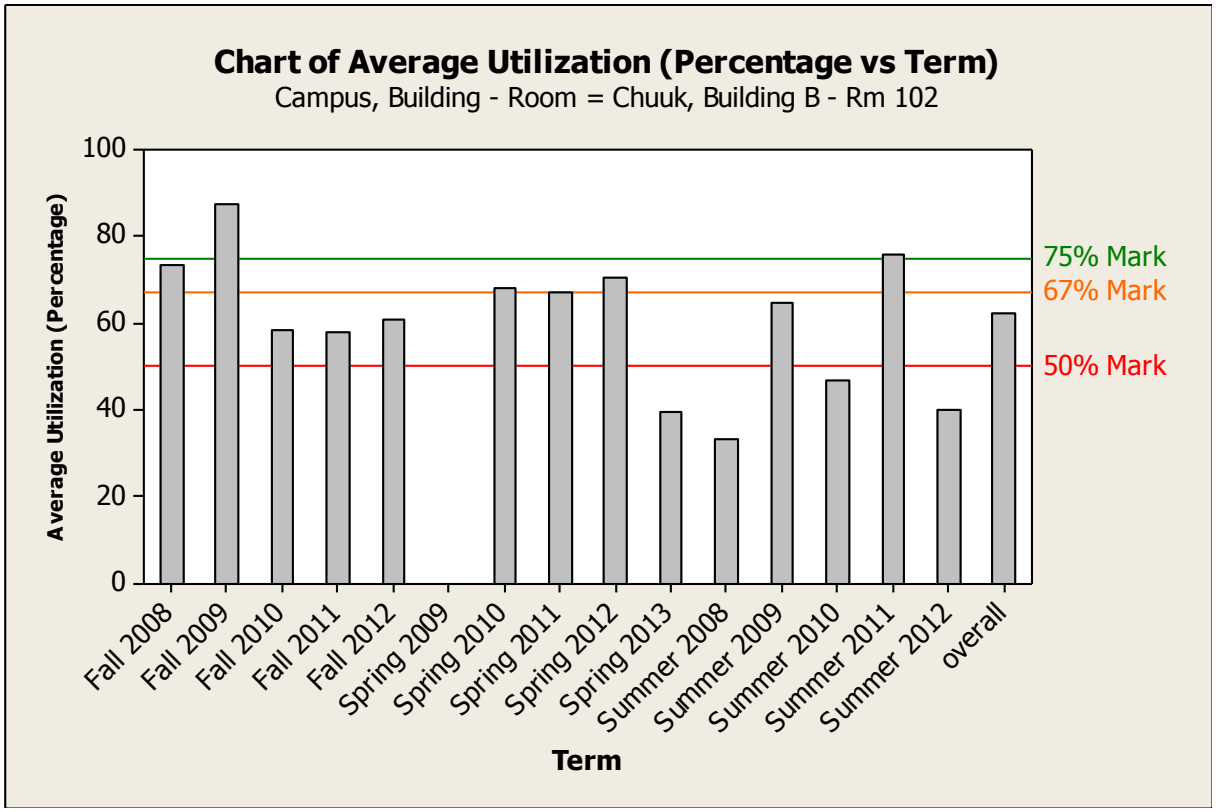
Chuuk - 11 Rooms

NOTE: Some rooms had average capacities above 100%, but these have only been shown to be 100% of the graphs.

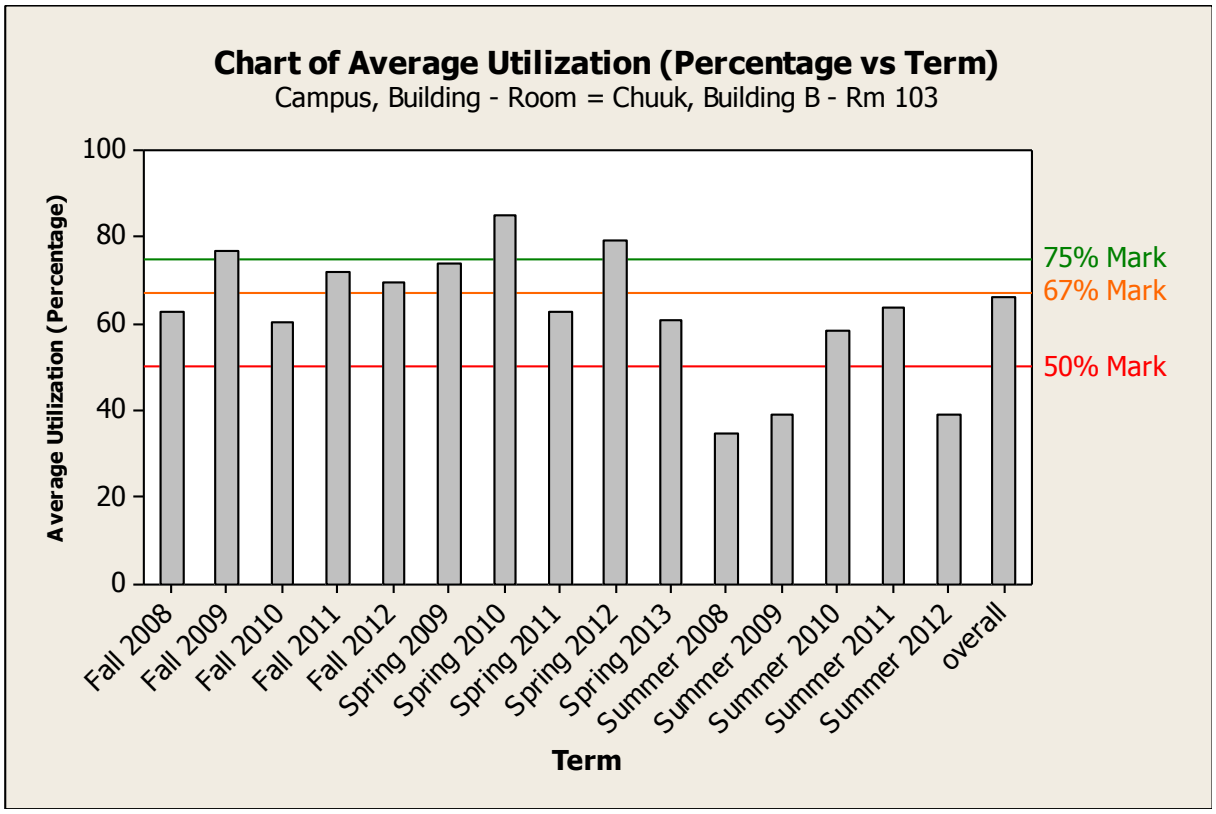
Building B – Rm 101



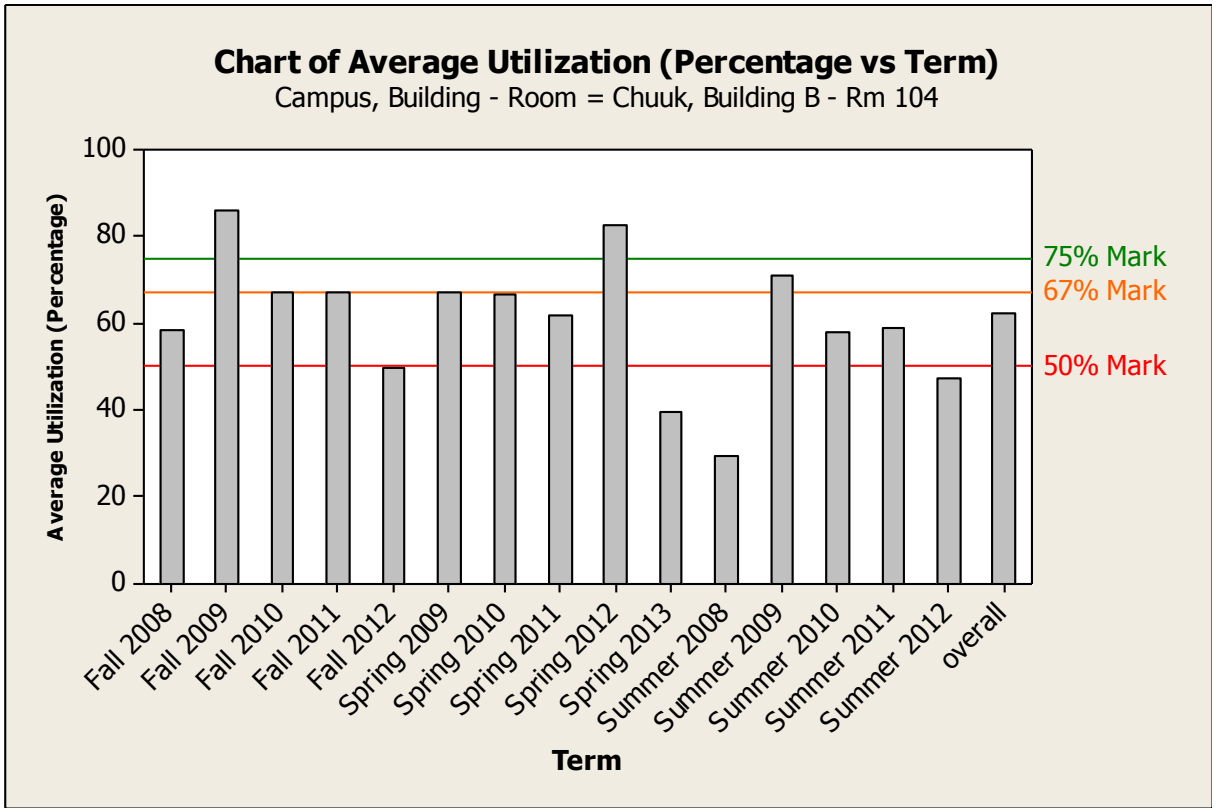
Building B – Rm 102



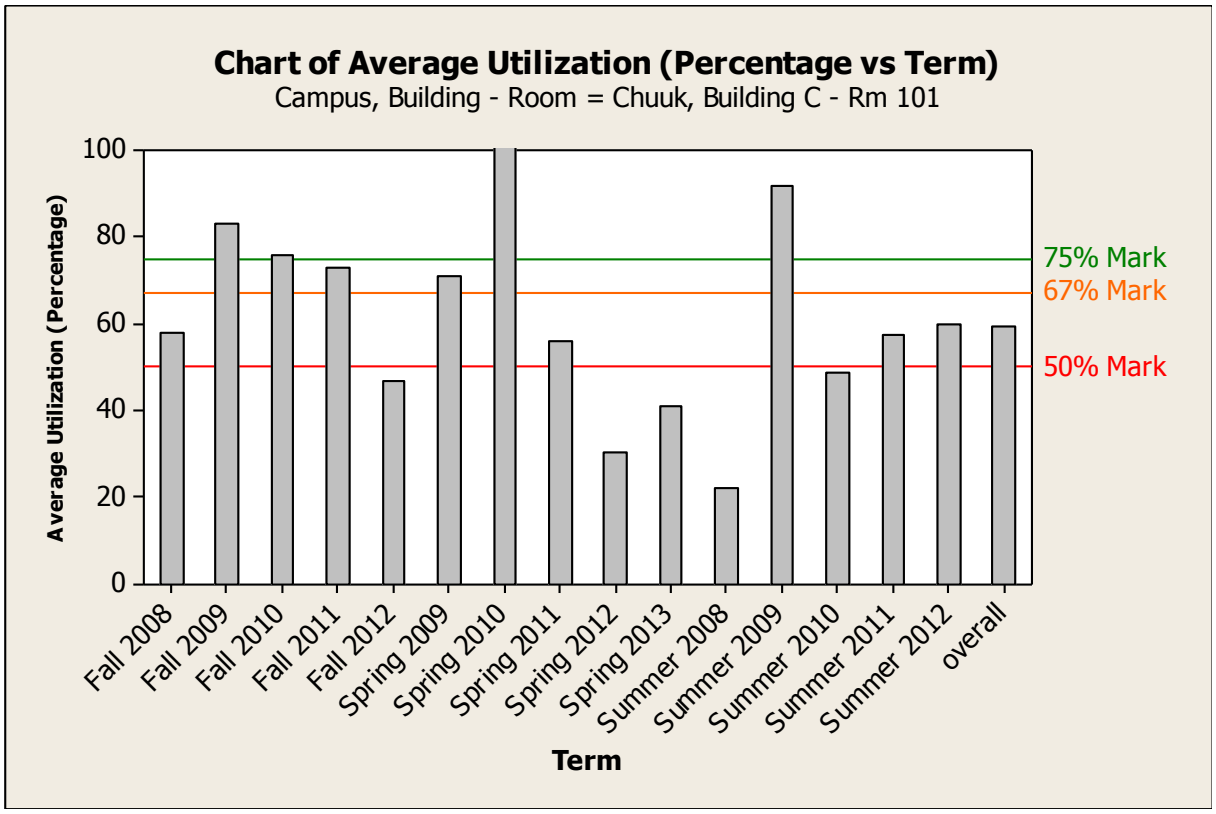
Building B – Rm 103



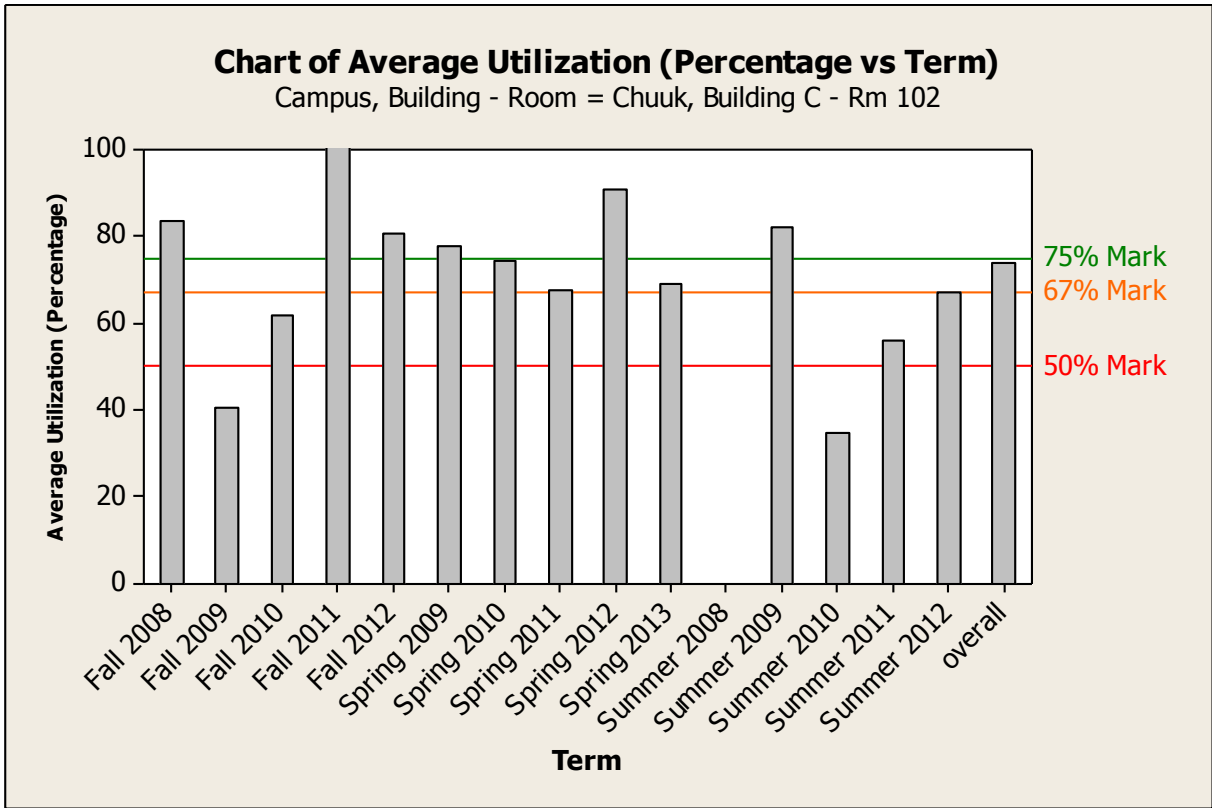
Building B – Rm 104



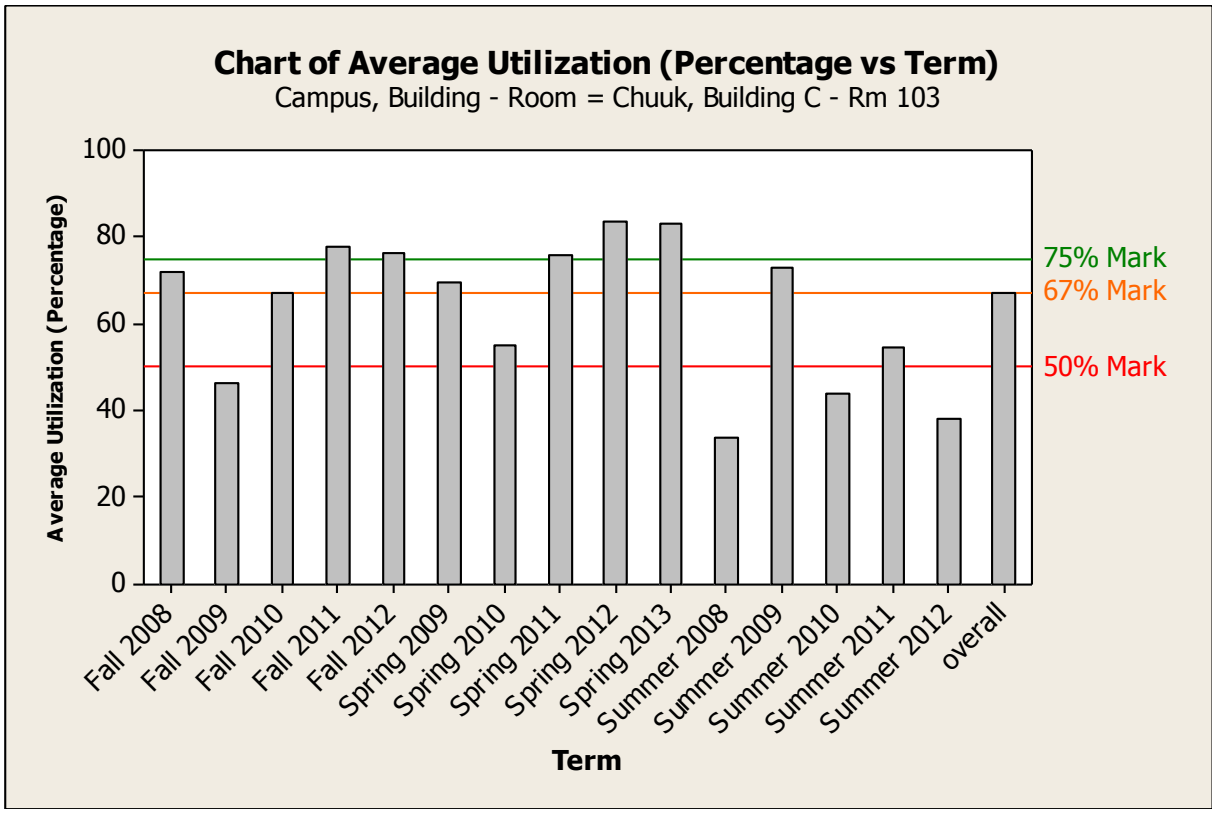
Building C – Rm 101



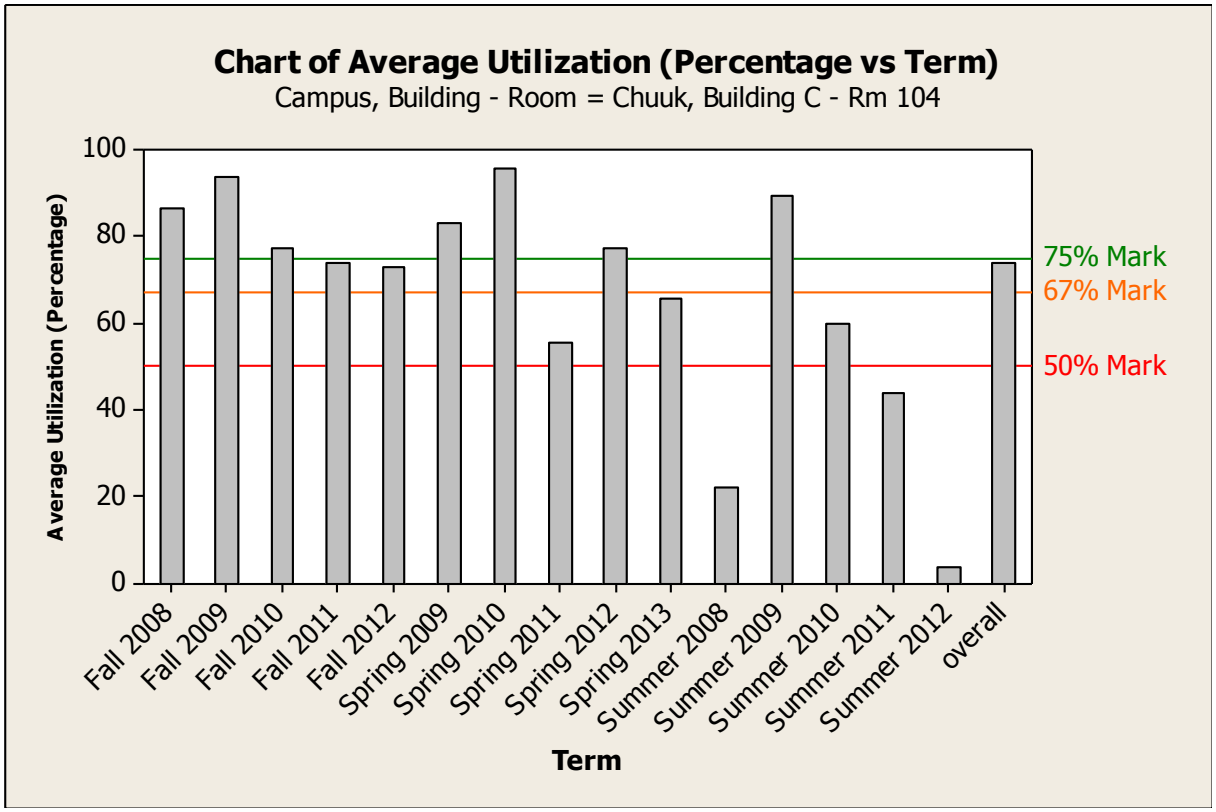
Building C – Rm 102



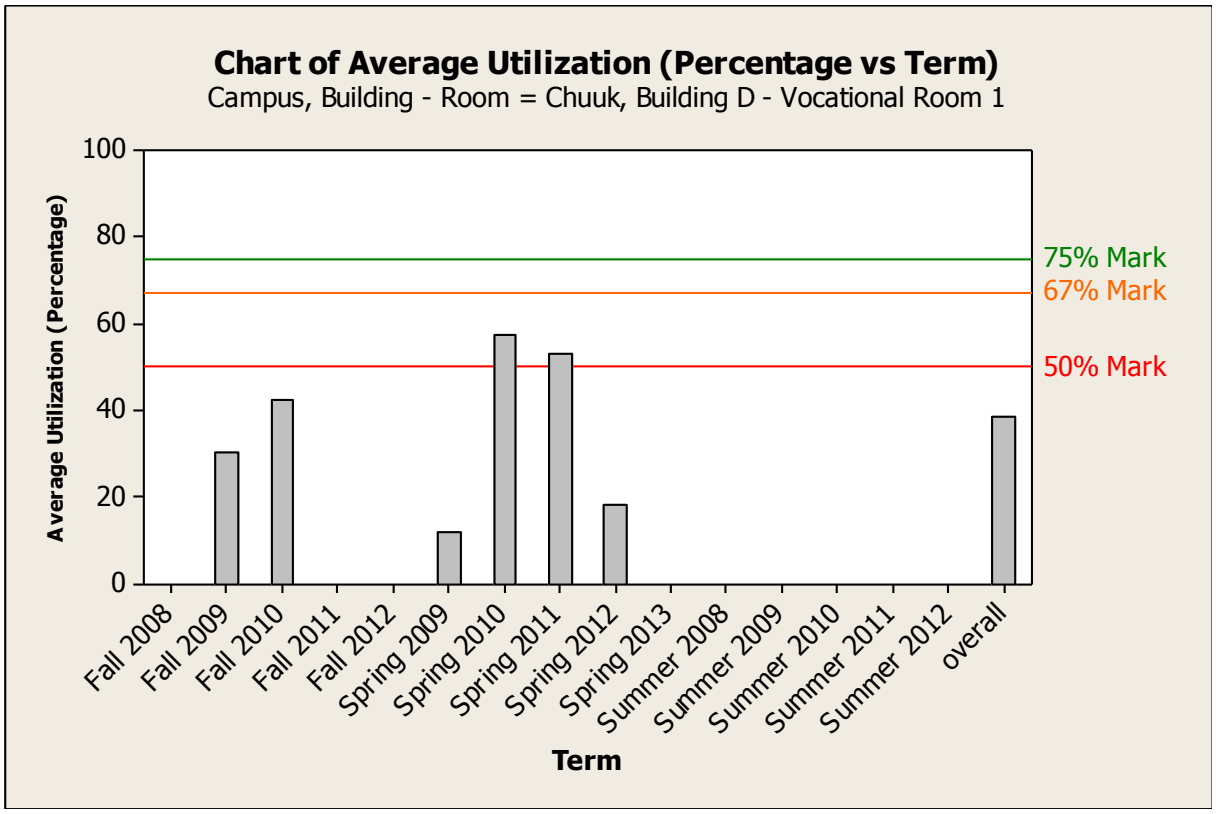
Building C – Rm 103



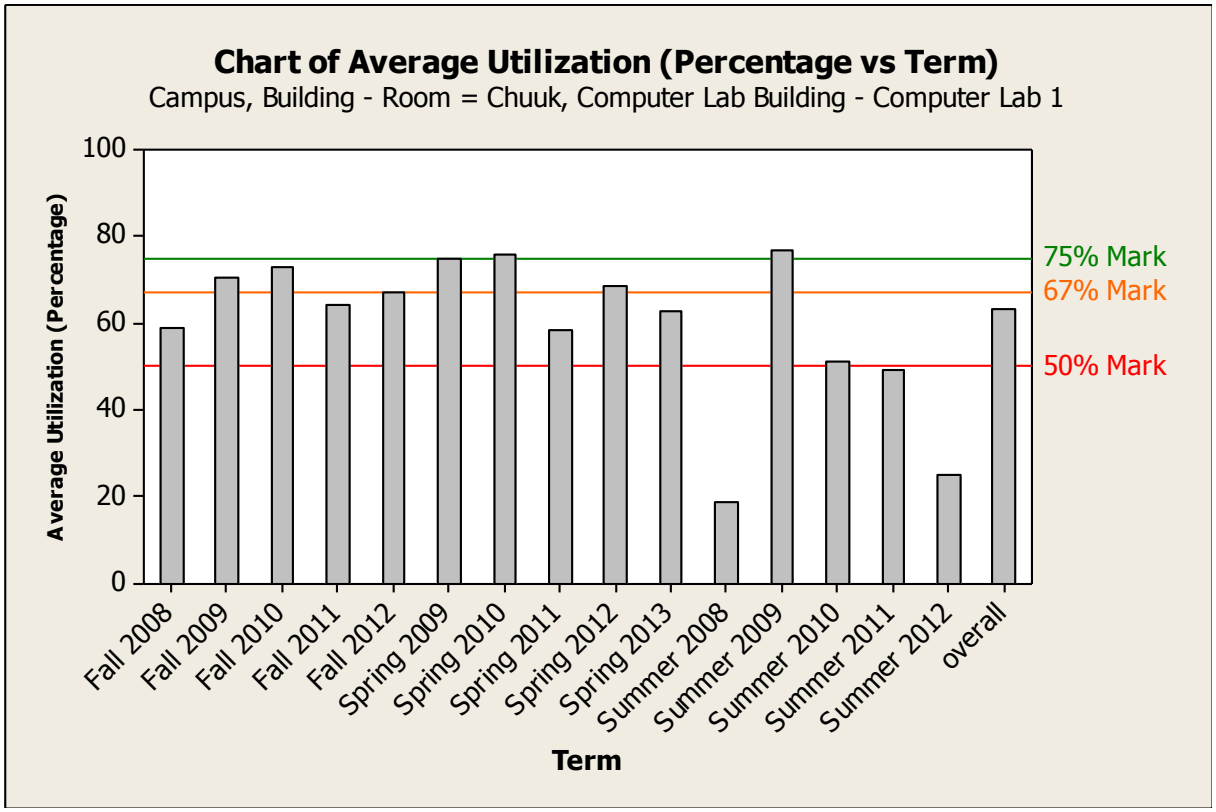
Building C – Rm 104



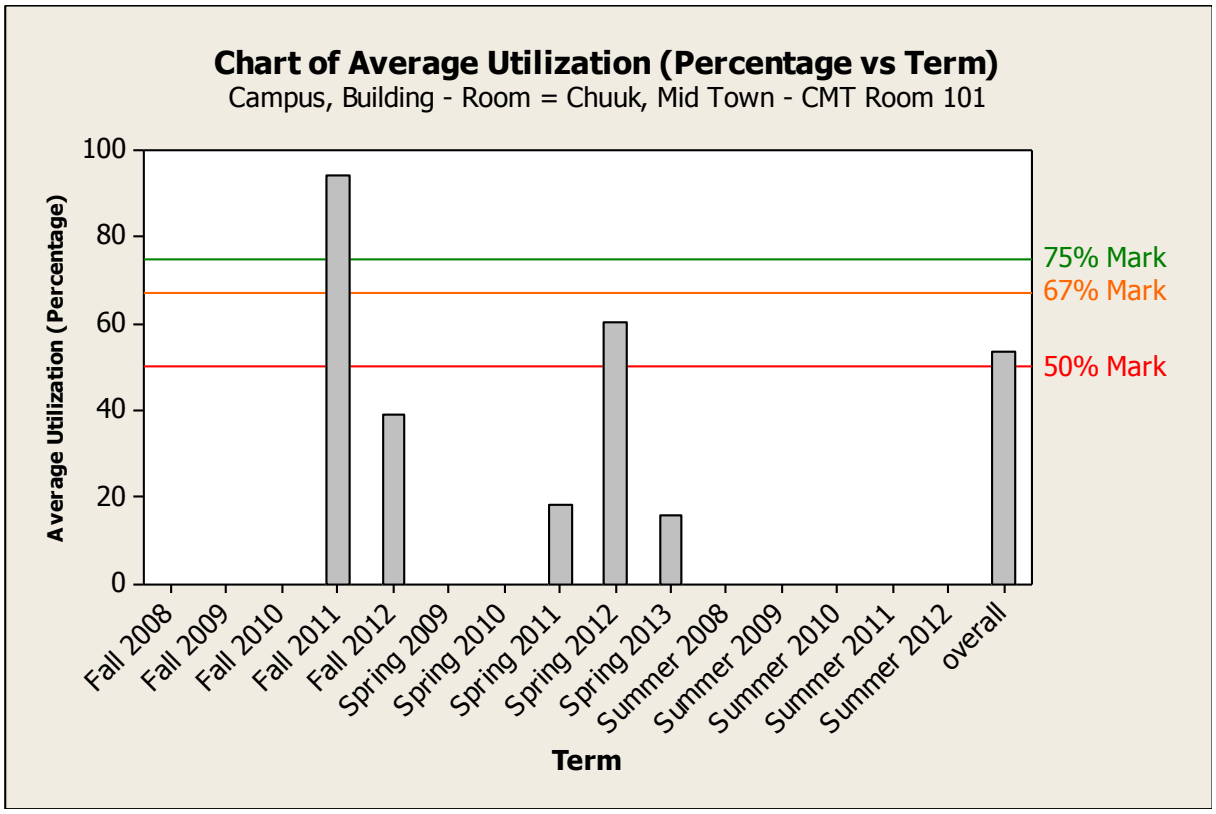
Building D – Vocational Room 1



Computer Lab Building – Computer Lab 1



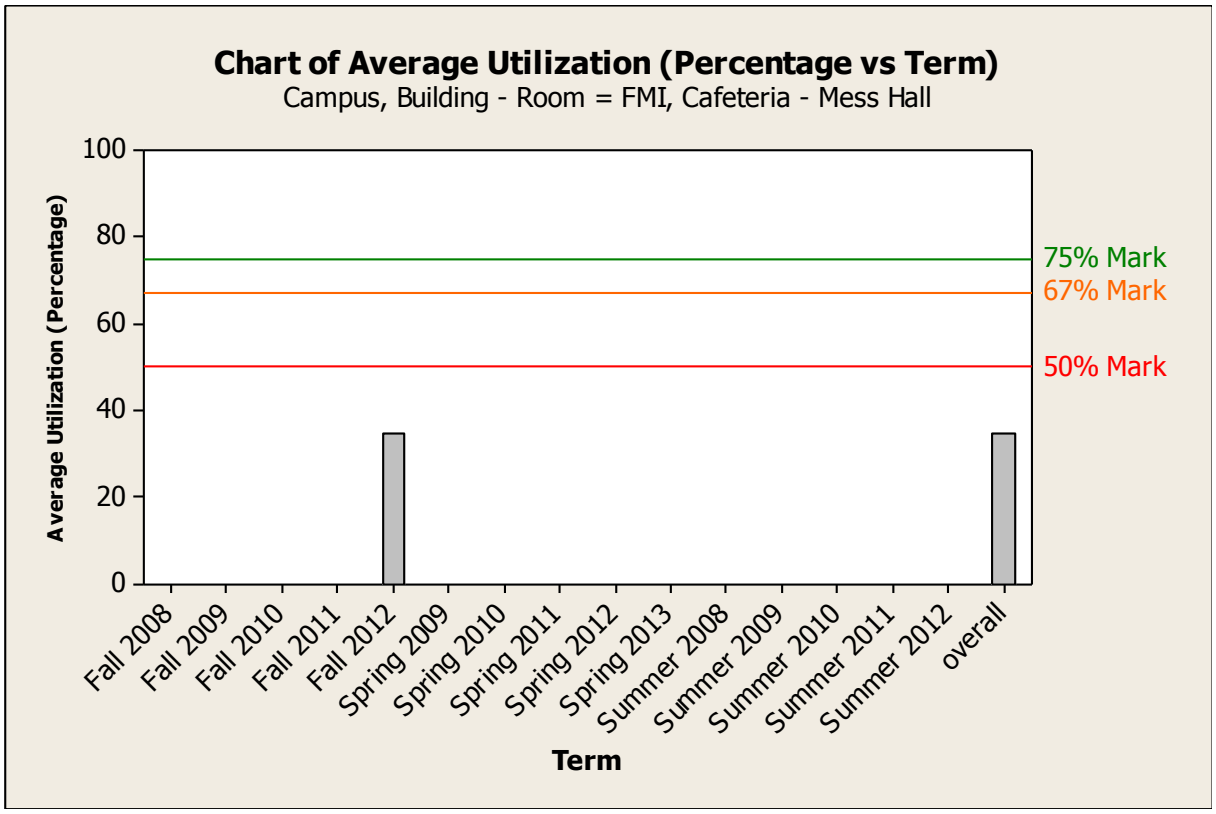
Mid Town – CMT Room 101



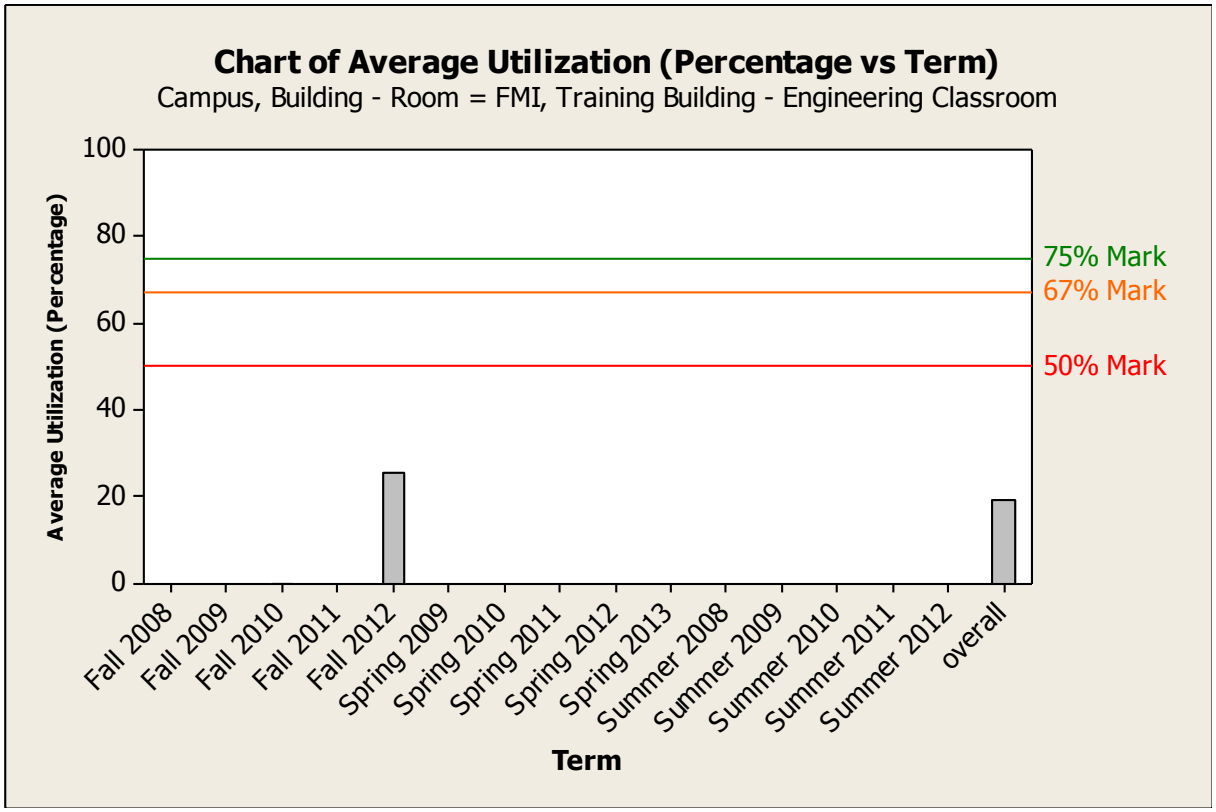
FMI – 8 Rooms

NOTE: Some rooms had average capacities above 100%, but these have only been shown to be 100% of the graphs.

Mess Hall

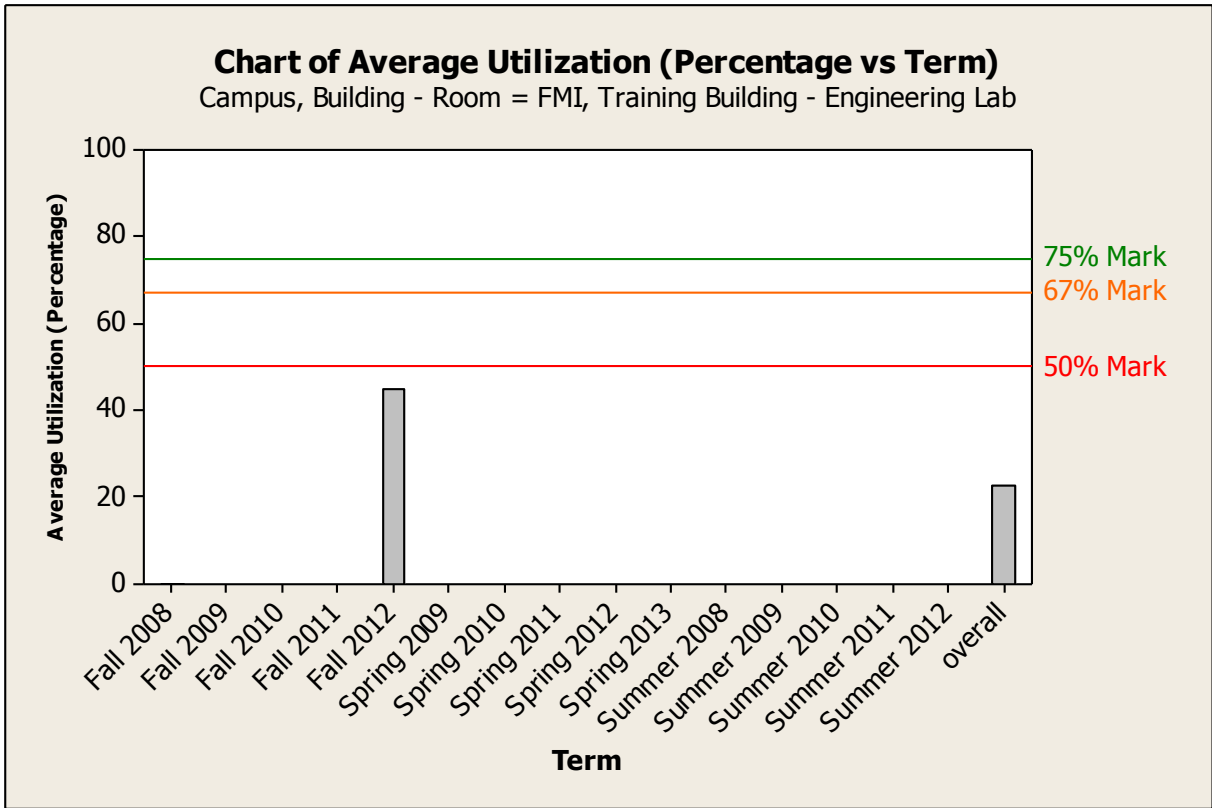


Engineering Classroom



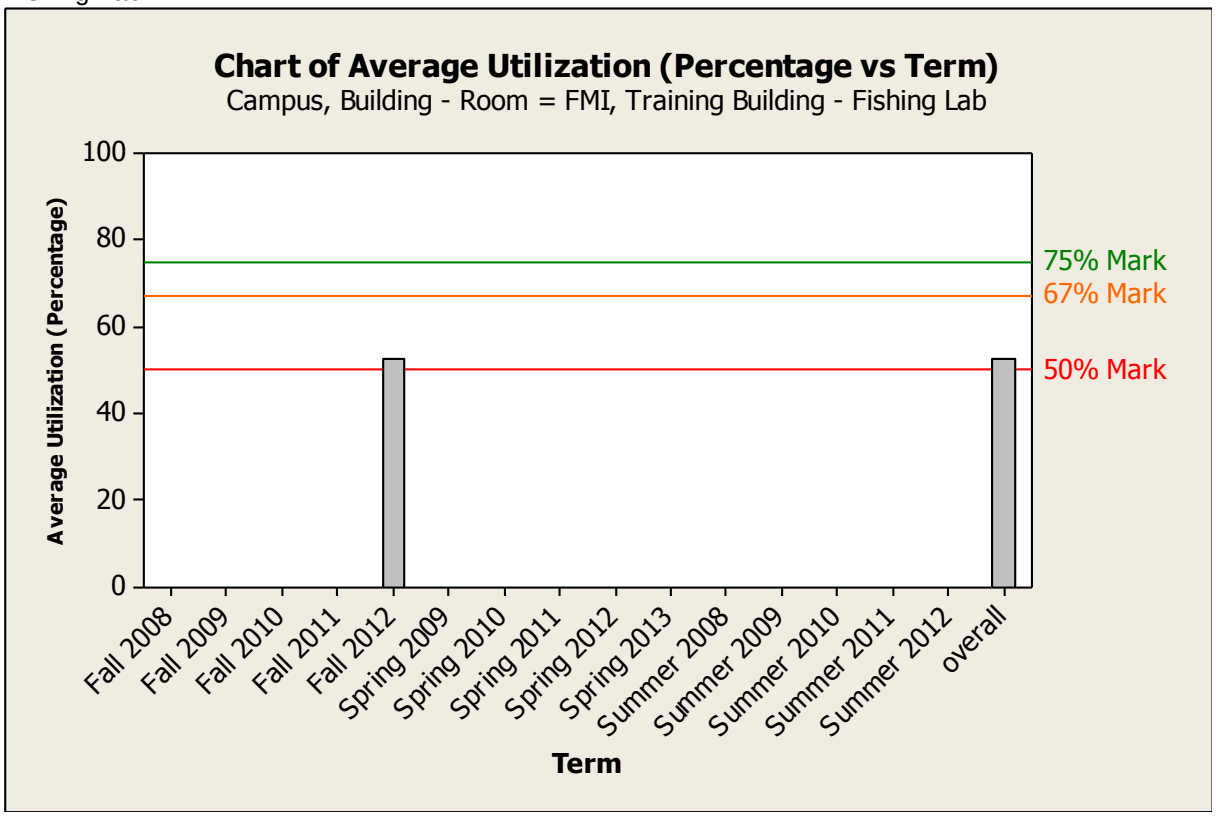
NOTE: Fall 2010 had an average capacity of 0% and this lowered the overall average percentage.

Engineering Lab

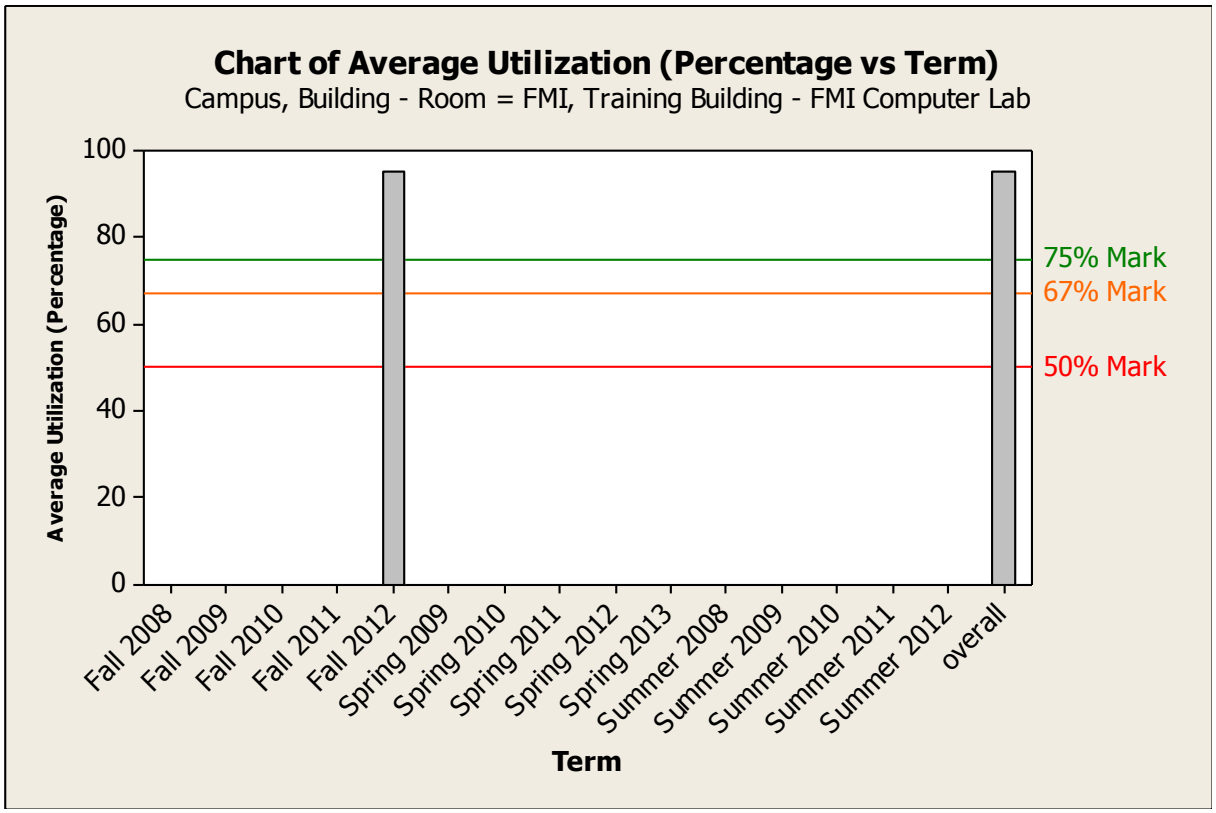


NOTE: Fall 2008 had an average capacity of 0% and this lowered the overall average percentage.

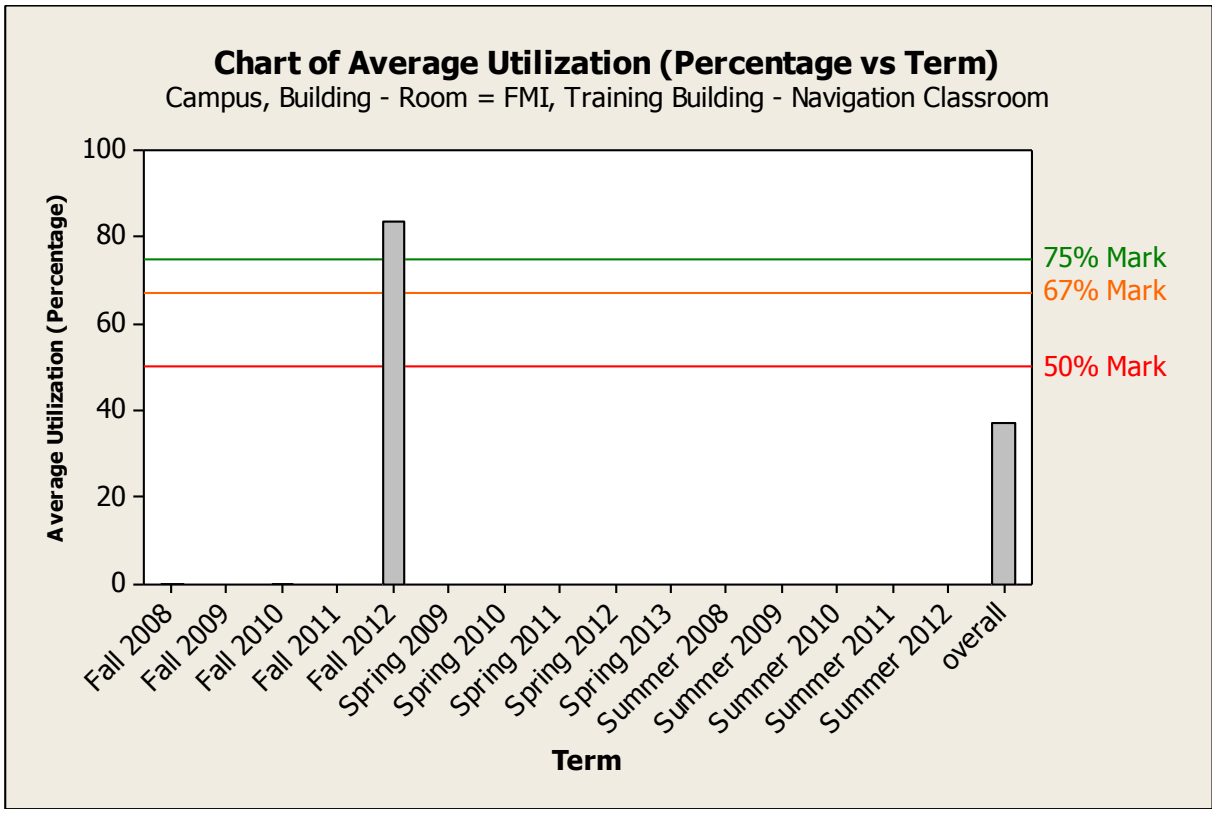
Fishing Lab



FMI Computer Lab

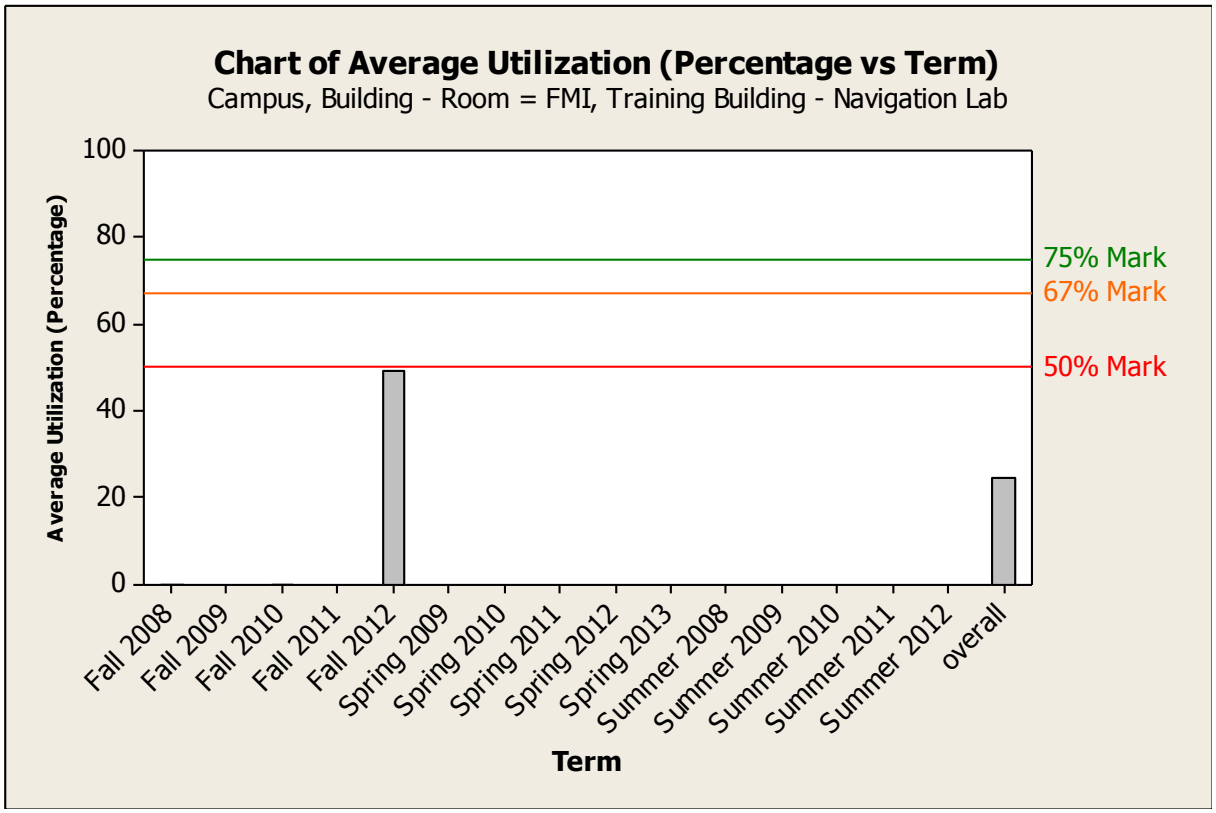


Navigation Classroom



NOTE: Fall 2008 and Fall 2010 had average capacities of 0% and this lowered the overall average percentage.

Navigation Lab



NOTE: Fall 2008 and Fall 2010 had average capacities of 0% and this lowered the overall average percentage.

Seaman's Shelter

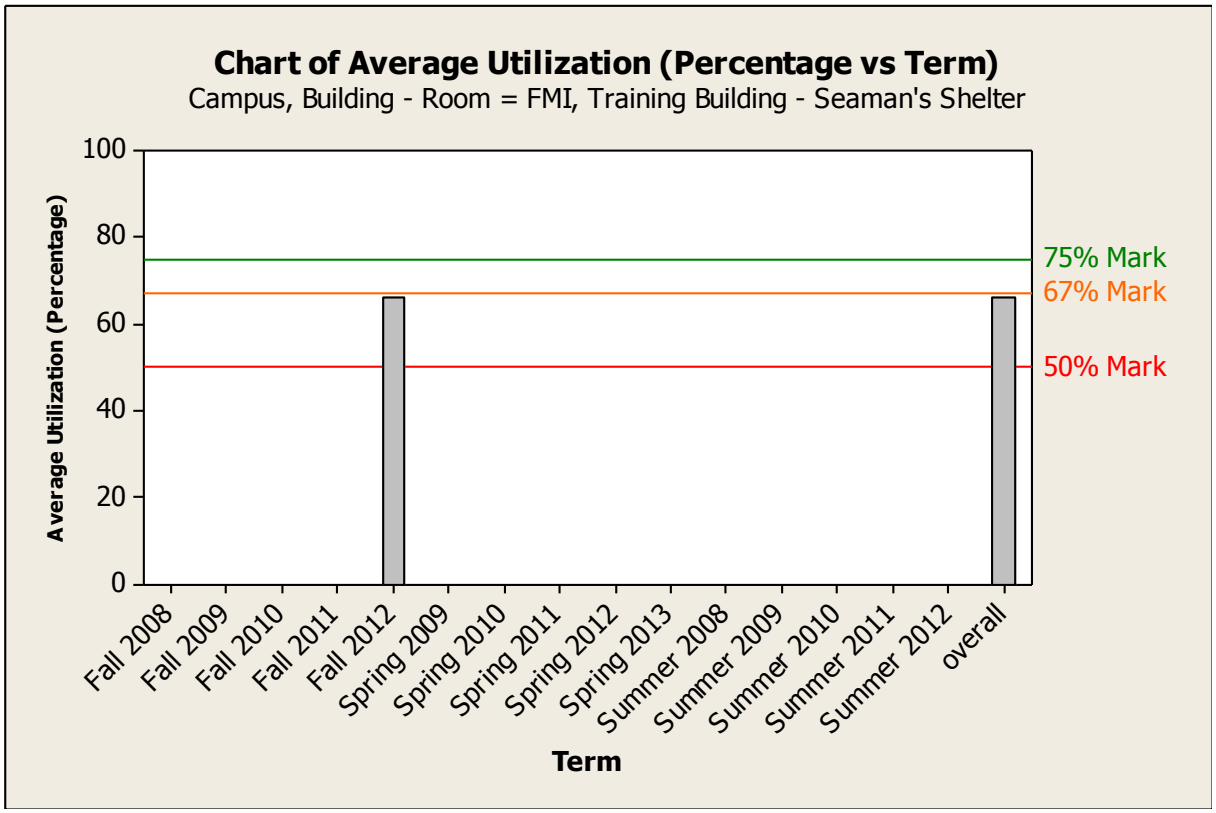
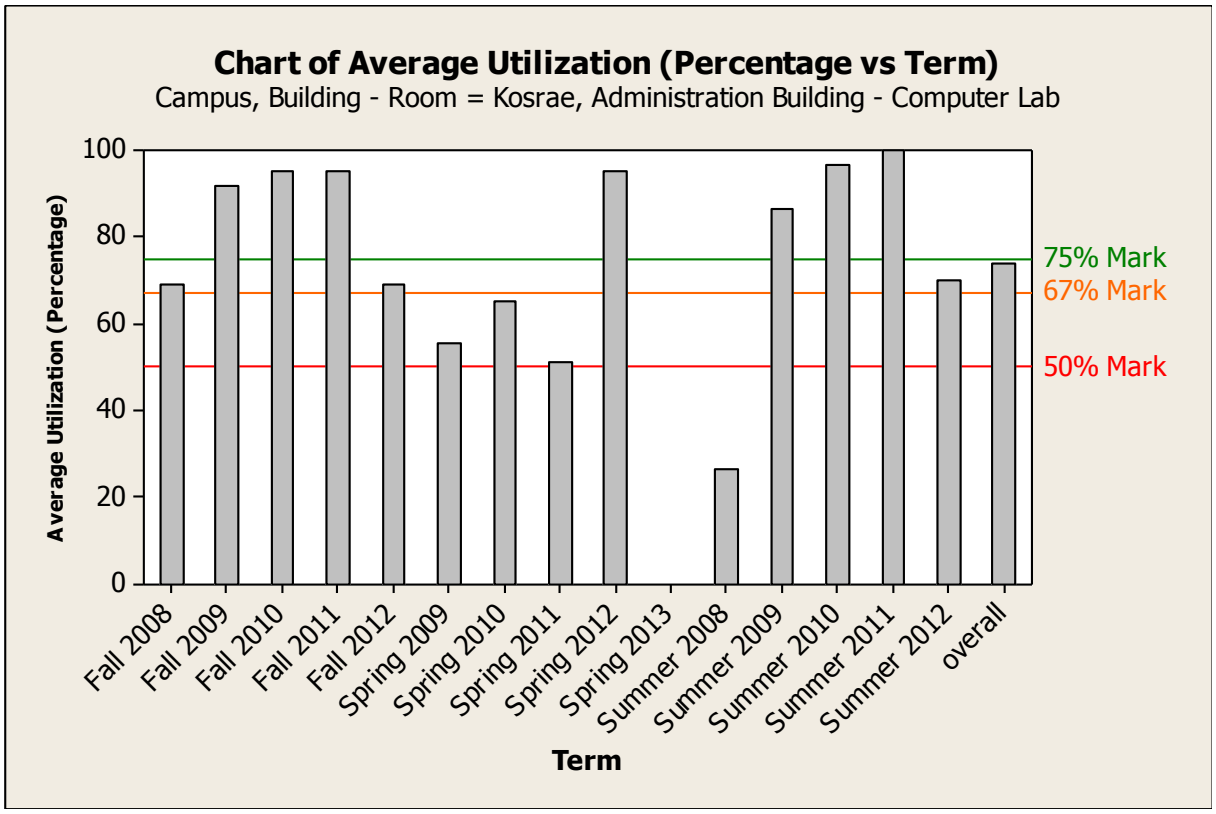


Chart of Average Utilization (Percentage vs Term)
Campus, Building - Room = FMI, Training Building - Seaman's Shelter
Average Utilization (Percentage)
100
80
60
40
20
0
75% Mark
67% Mark
50% Mark
Fall 2008
Fall 2009
Fall 2010
Fall 2011
Fall 2012
Spring 2009
Spring 2010
Spring 2011
Spring 2012
Spring 2013
Summer 2008
Summer 2009
Summer 2010
Summer 2011
Summer 2012
overall
Term

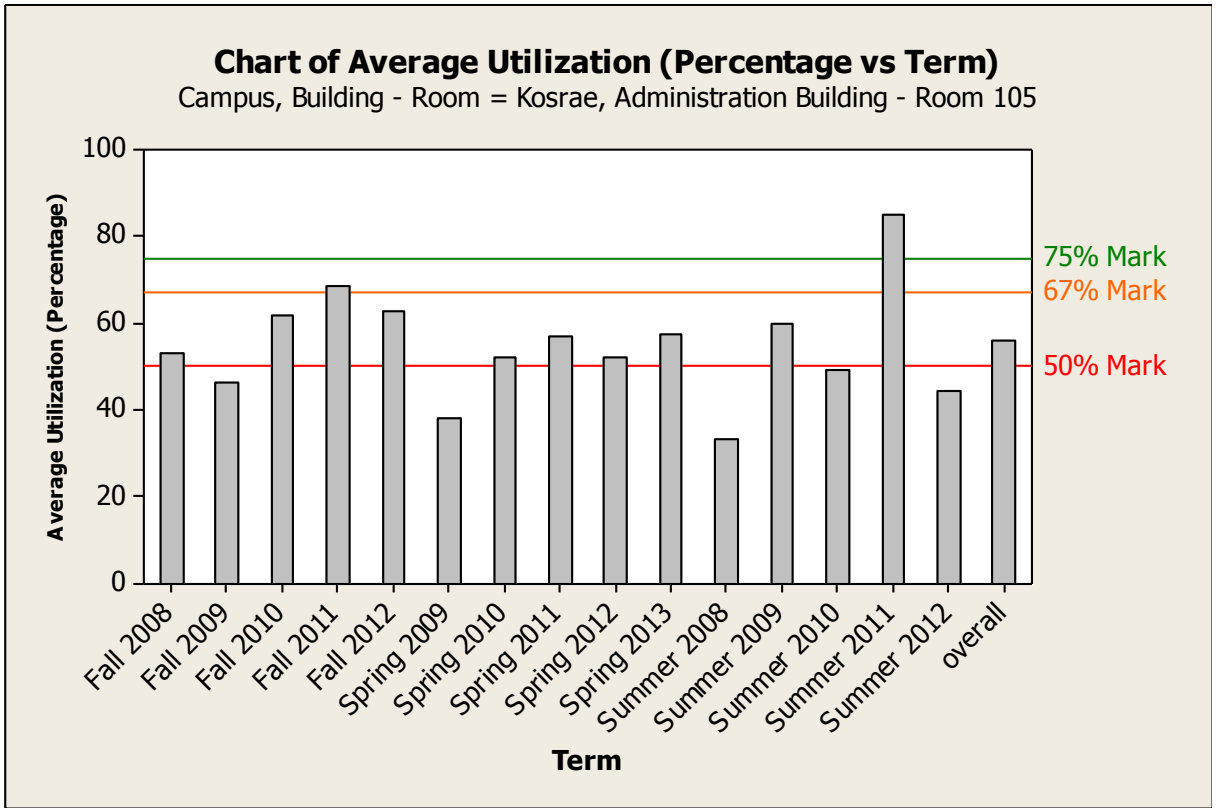
Kosrae – 9 rooms

NOTE: Some rooms had average capacities above 100%, but these have only been shown to be 100% of the graphs.

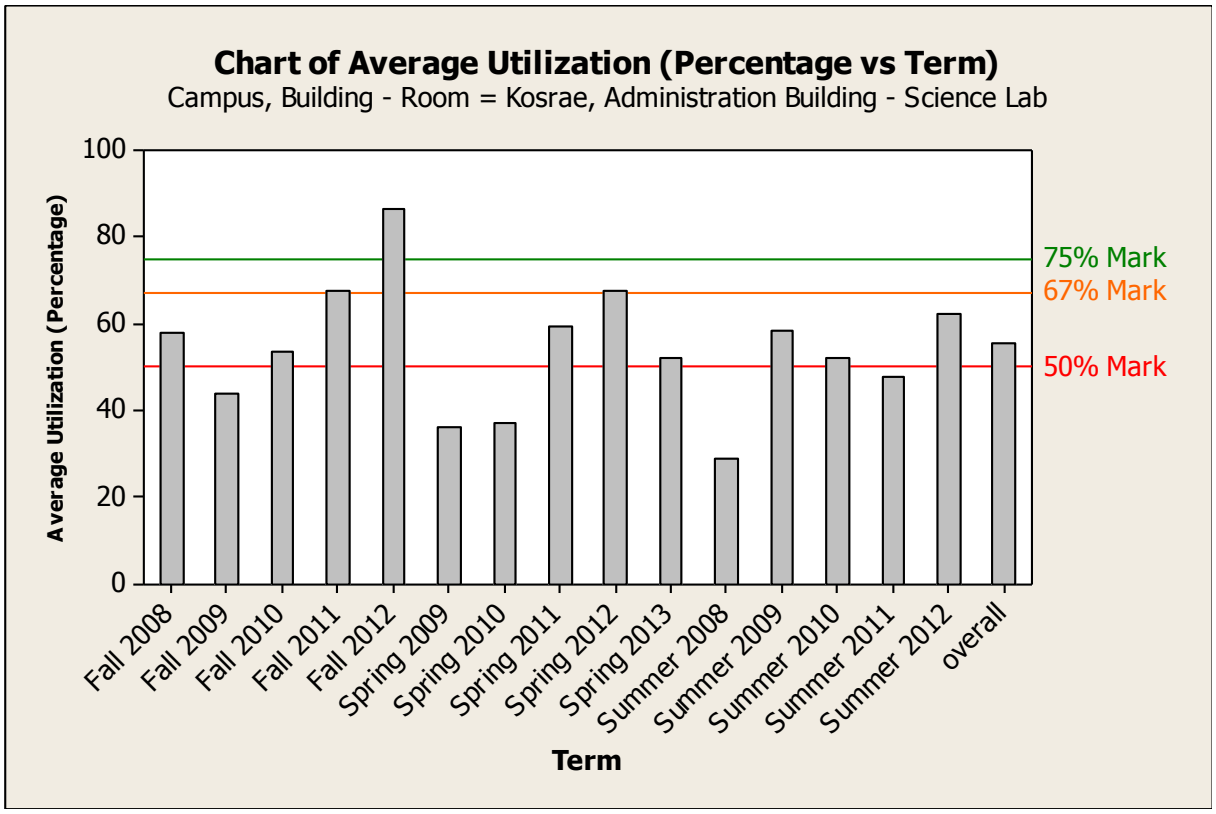
Admin Building – Computer Lab



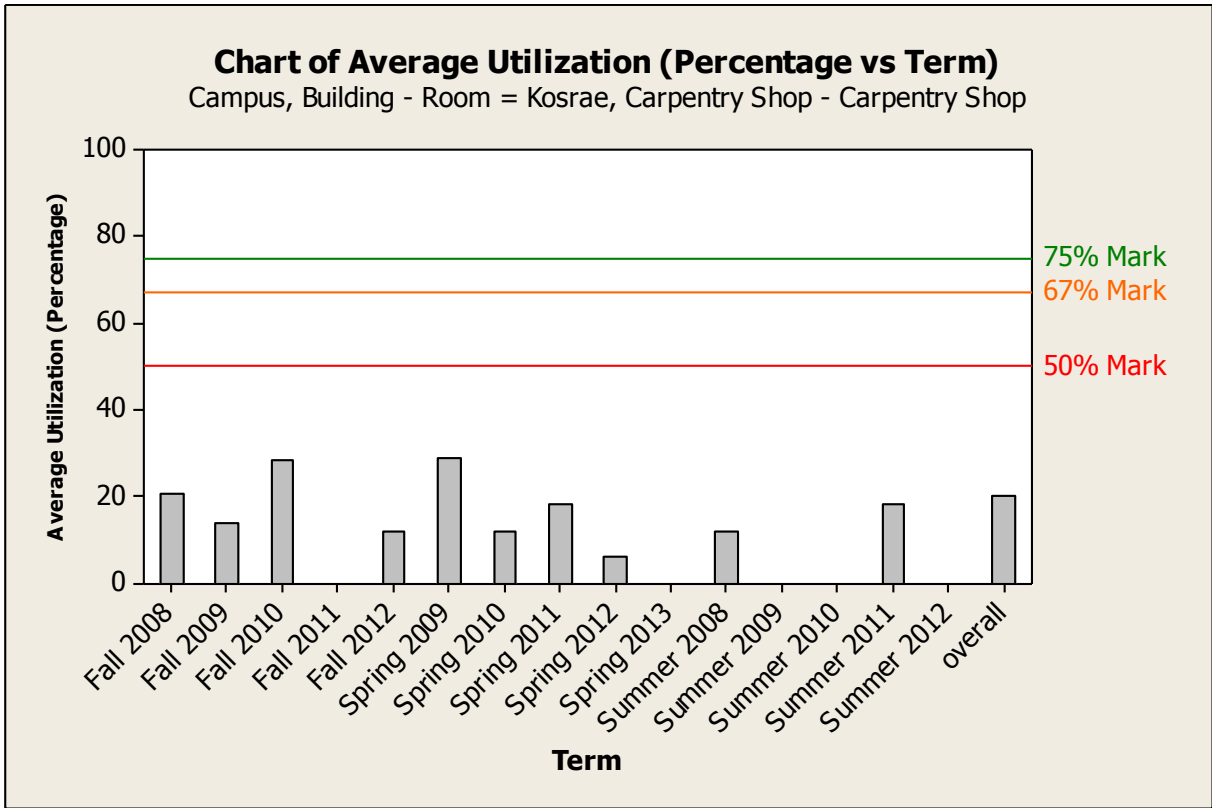
Admin Room 105



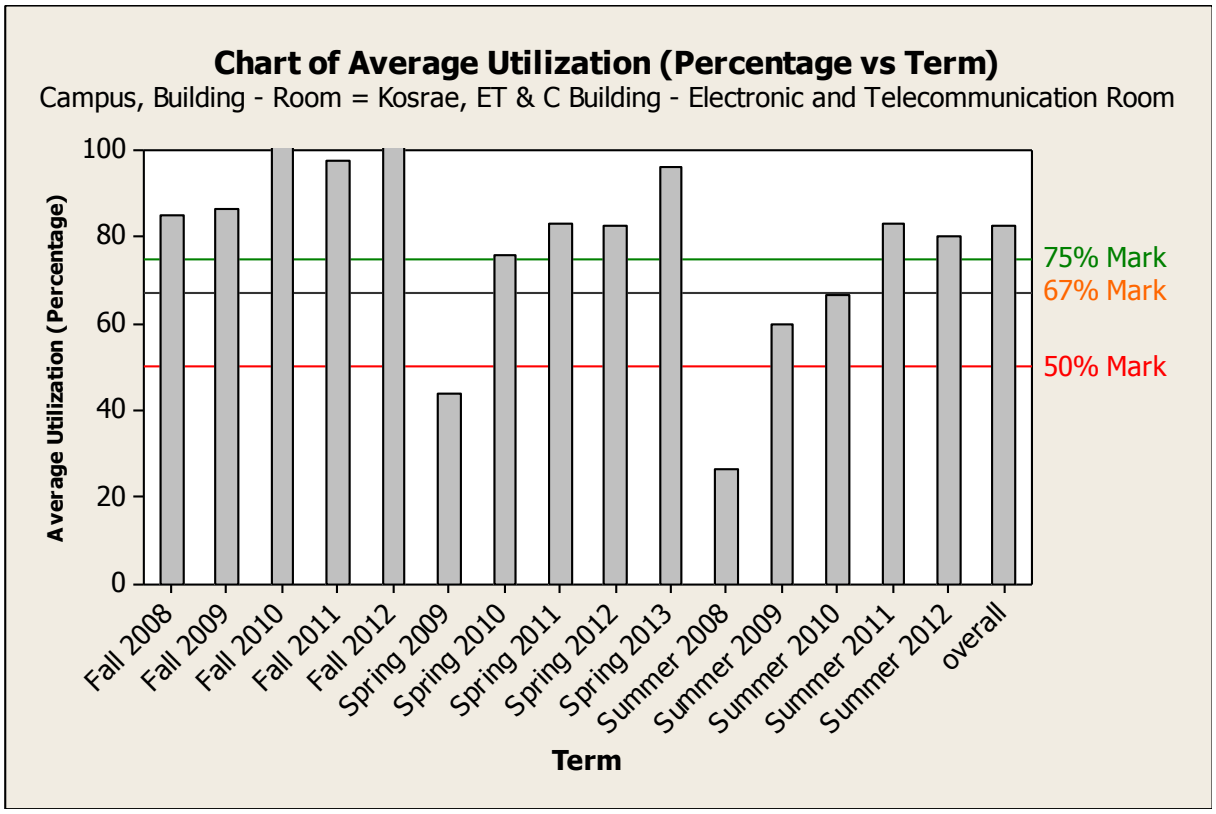
Admin Science Lab



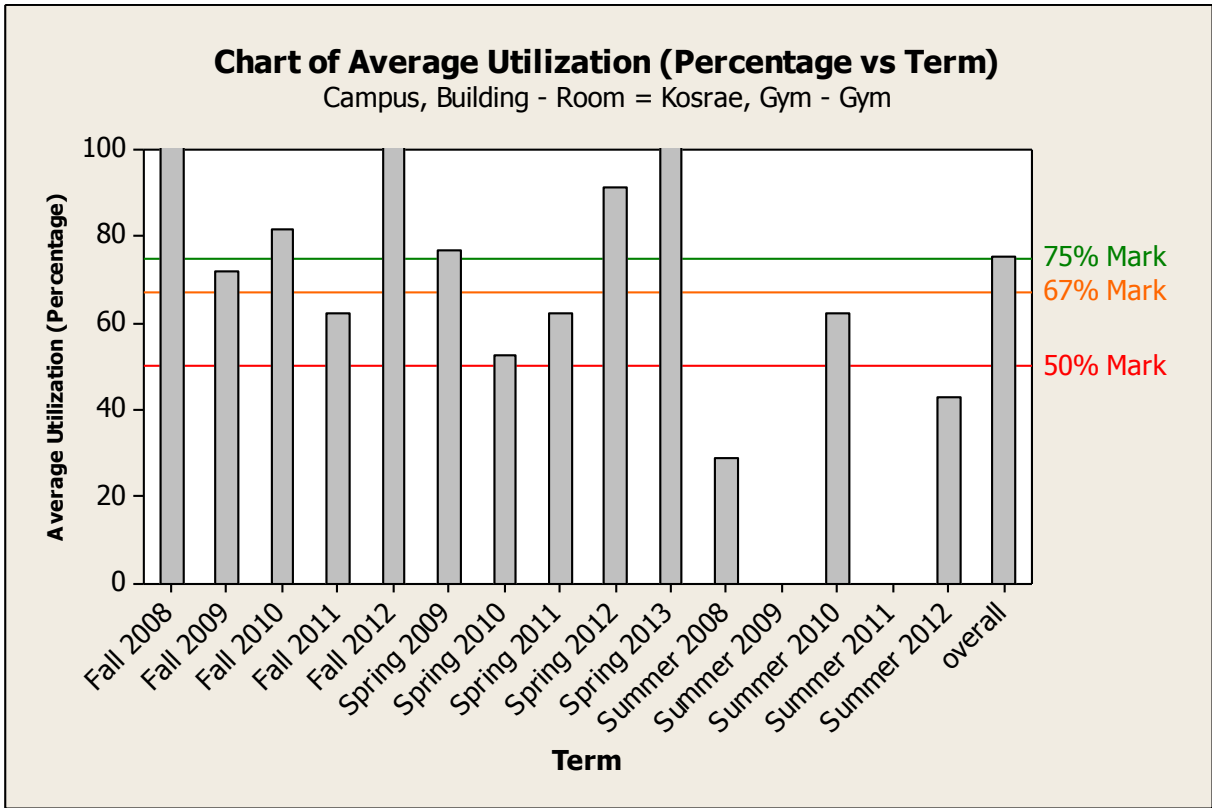
Carpentry Shop



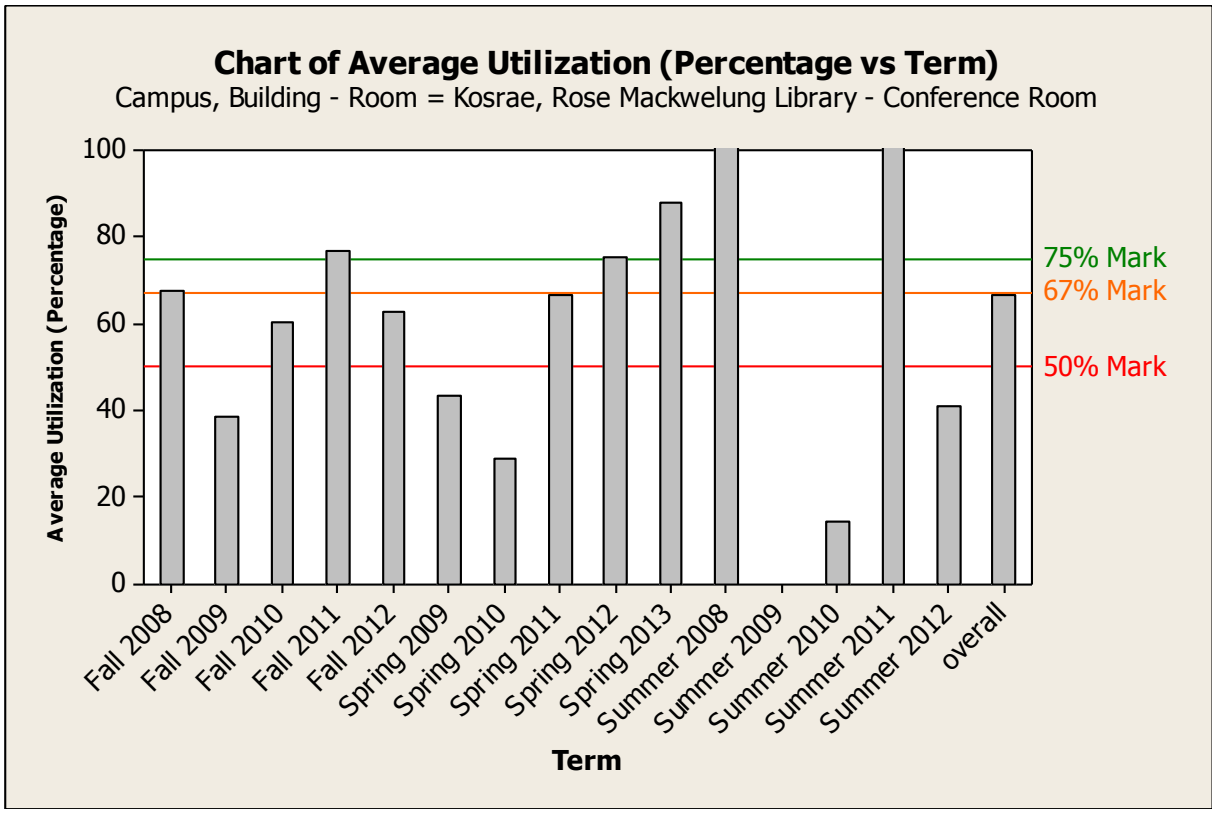
Electronic and Telecommunication Room



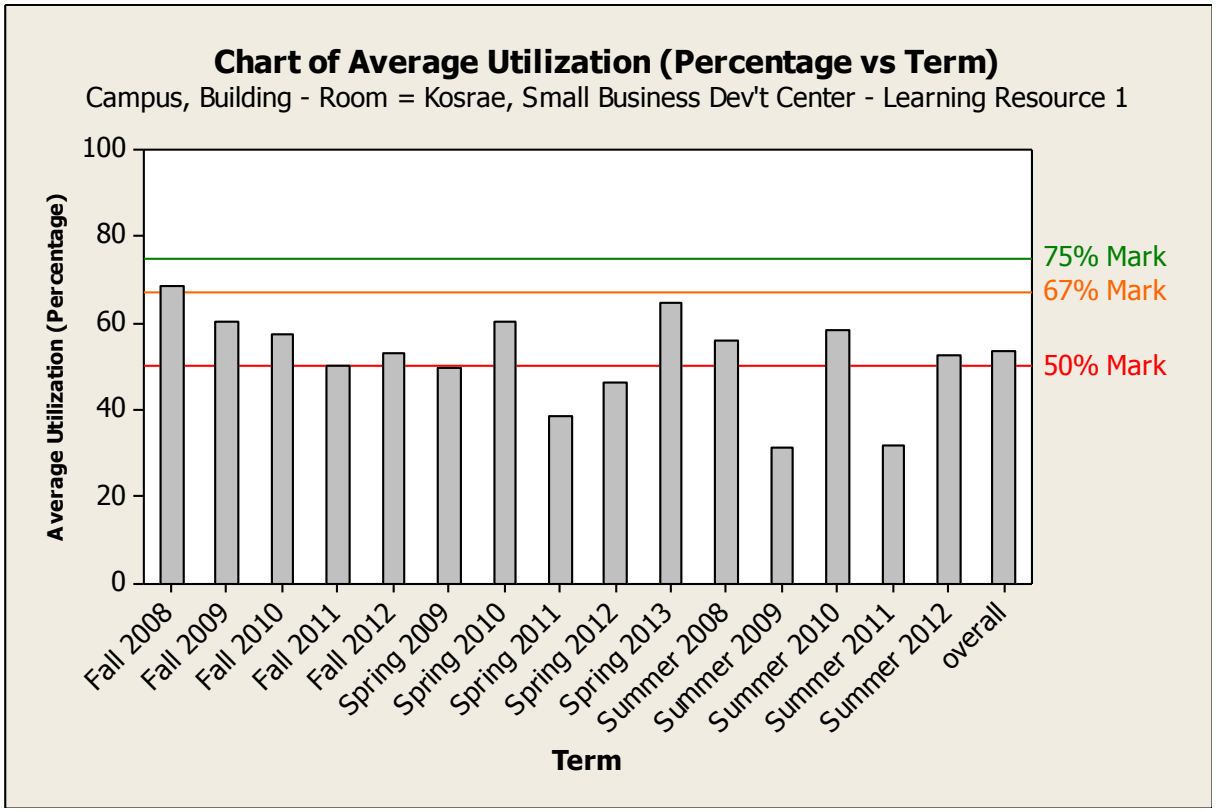
Gym



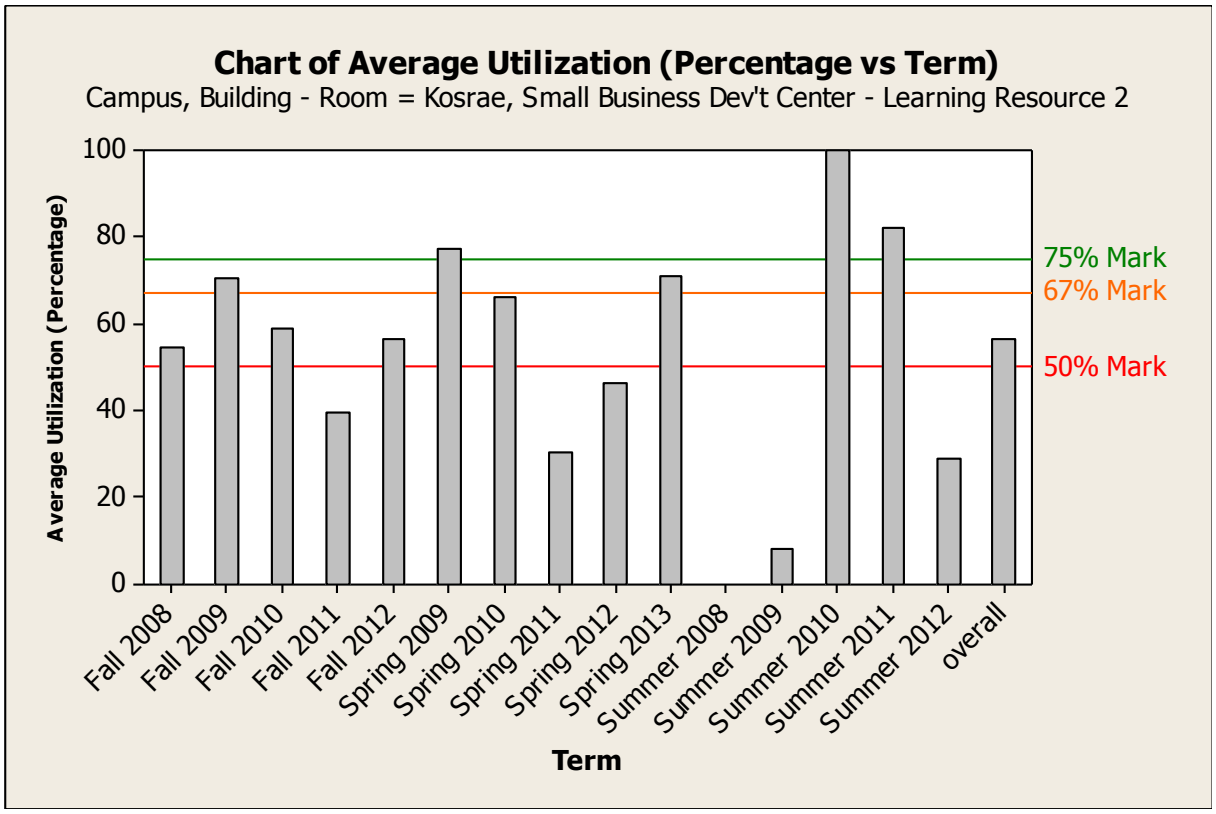
Rose Mackwelung Library



Small Business Learning Resource 1



Small Business Learning Resource 2

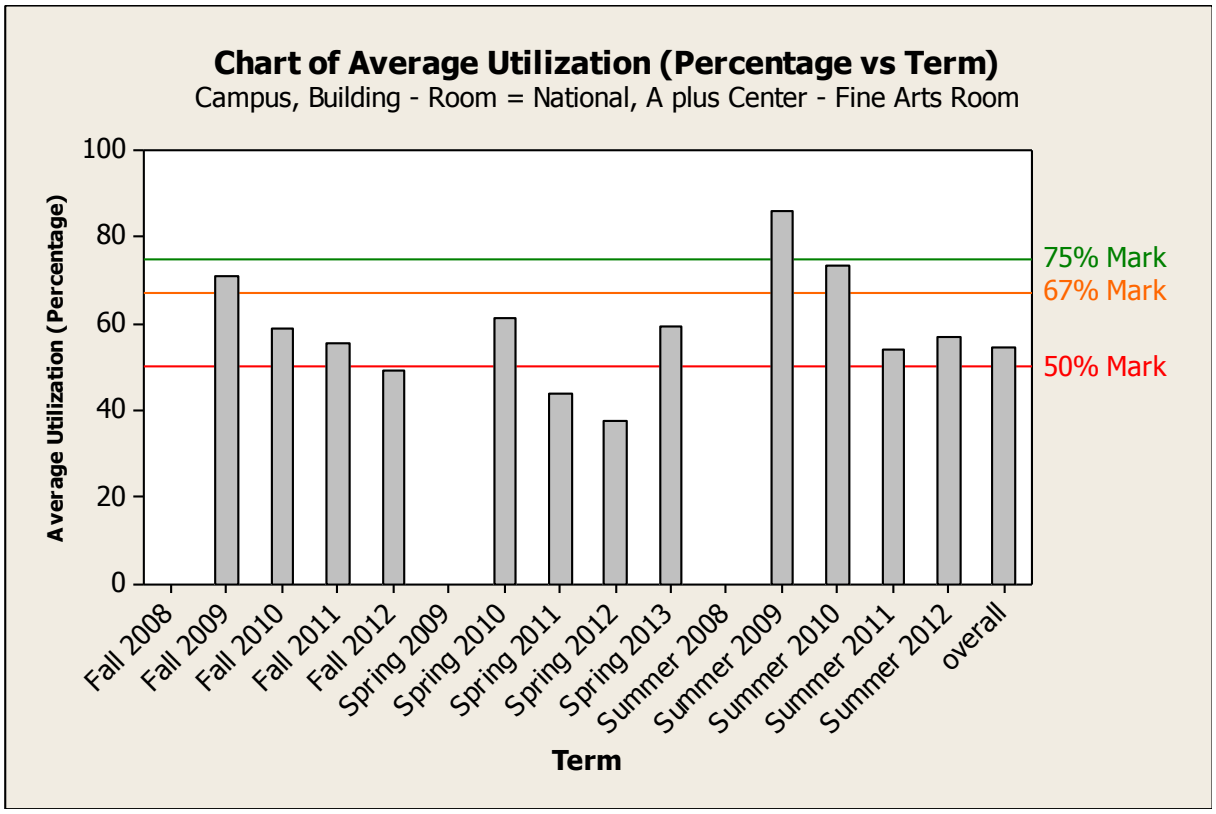


National – 24 rooms

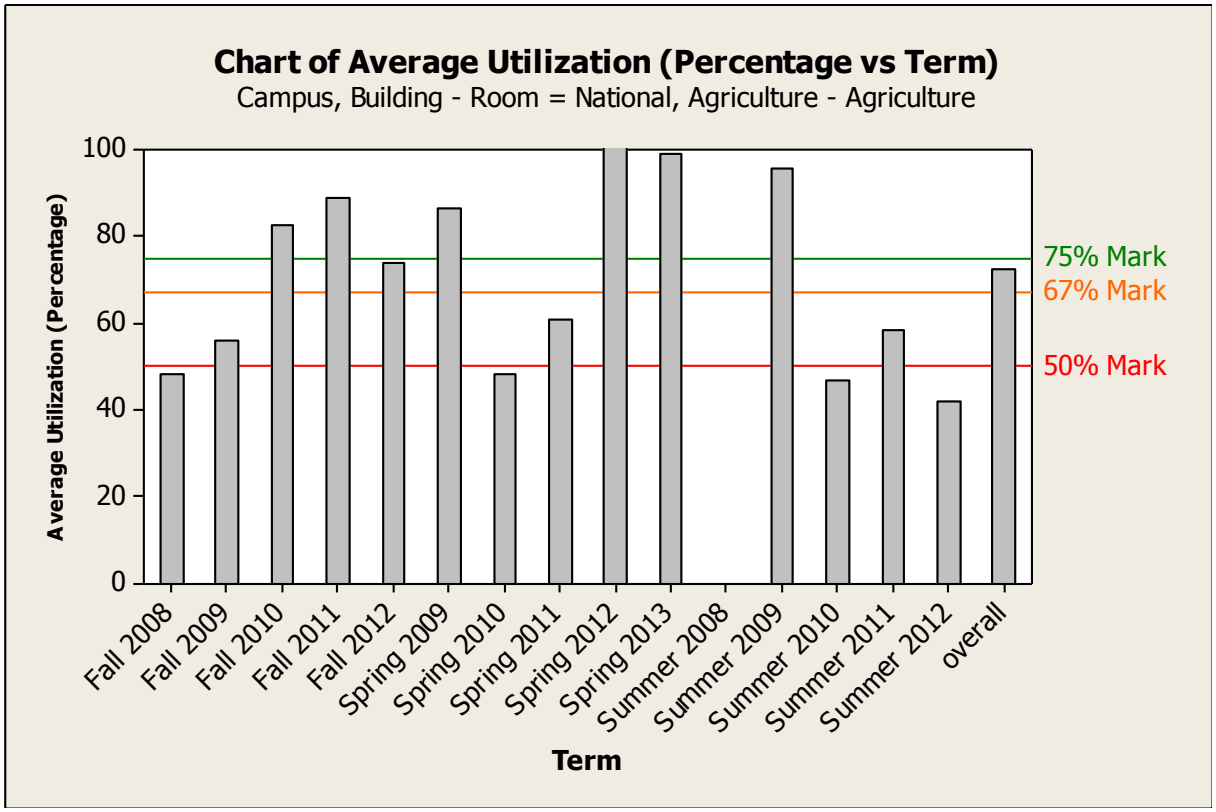
NOTE 1: Some rooms had average capacities above 100%, but these have only been shown to be 100% of the graphs.

NOTE 2: In the dataset there is a room entitled “Other” on the National campus. It is unknown if this is actually a unique location or a missing value in the dataset. The analysis has treated this “Other” space as a unique classroom.

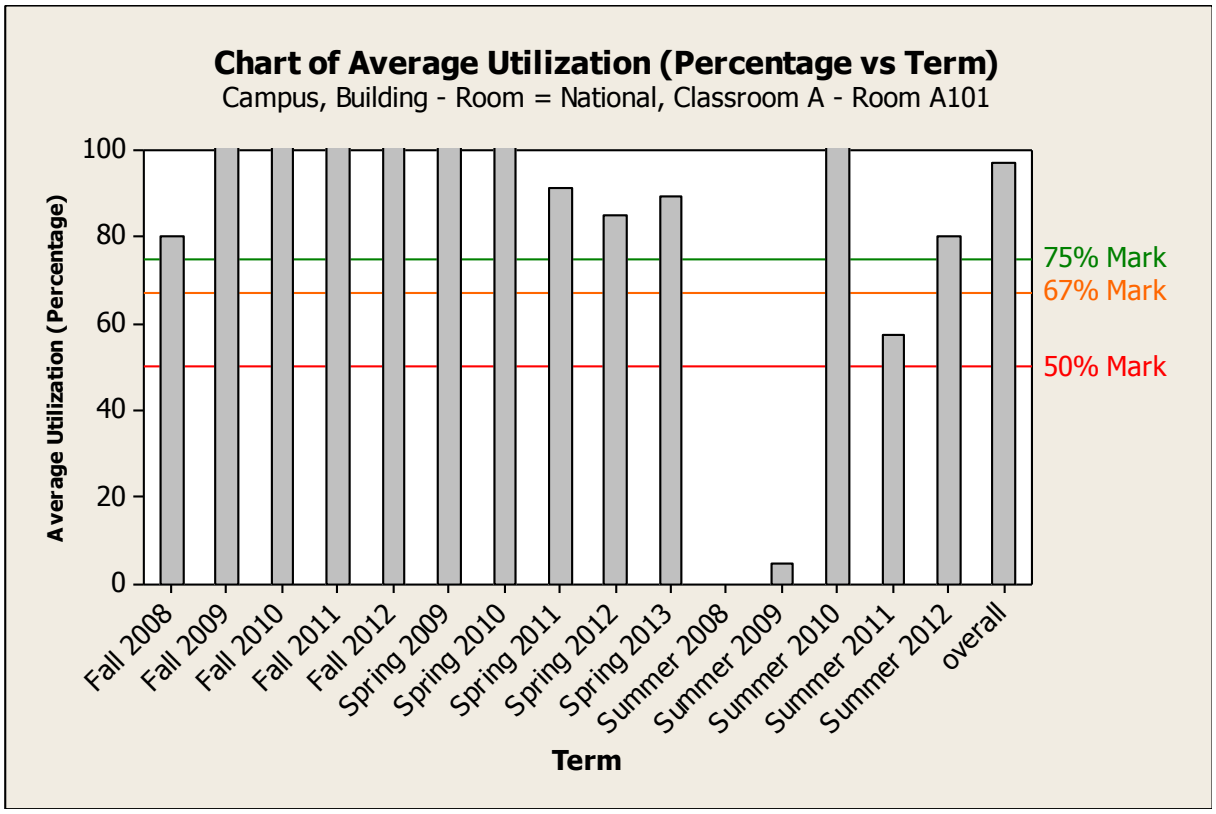
A plus center – Fine Arts Room



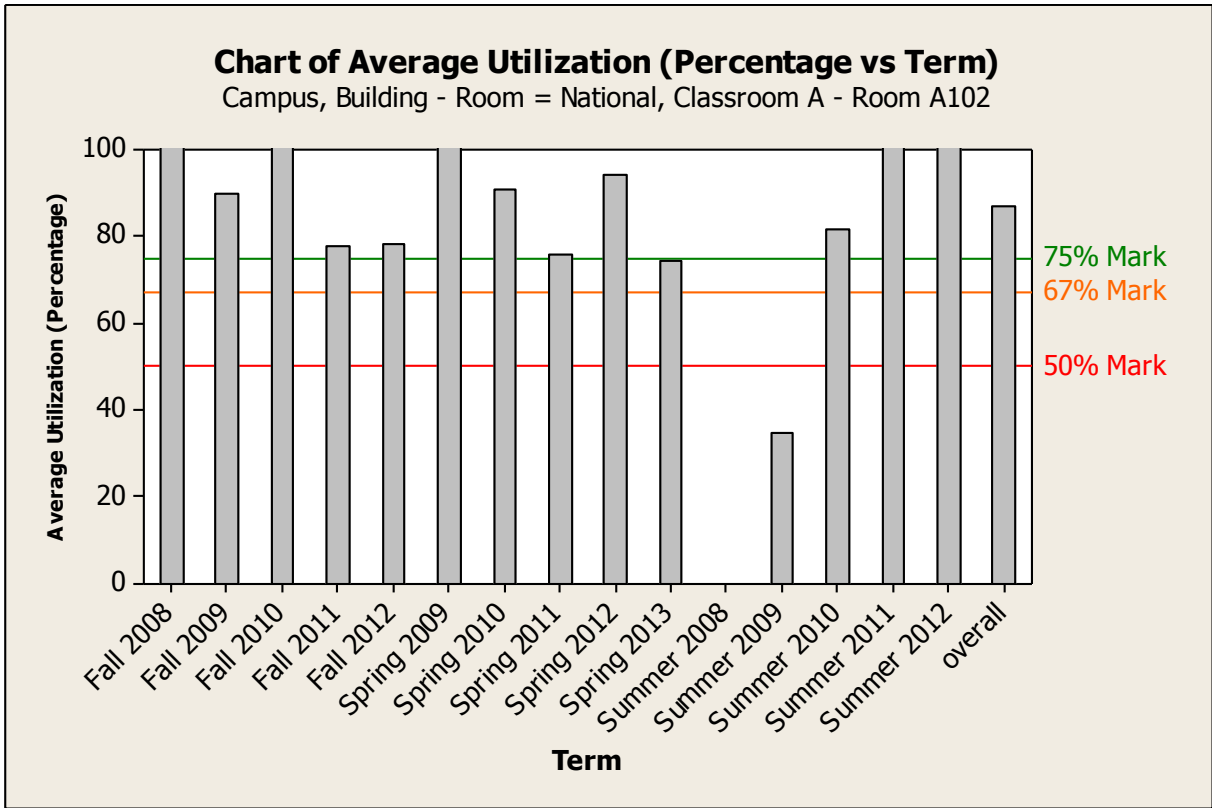
Agriculture



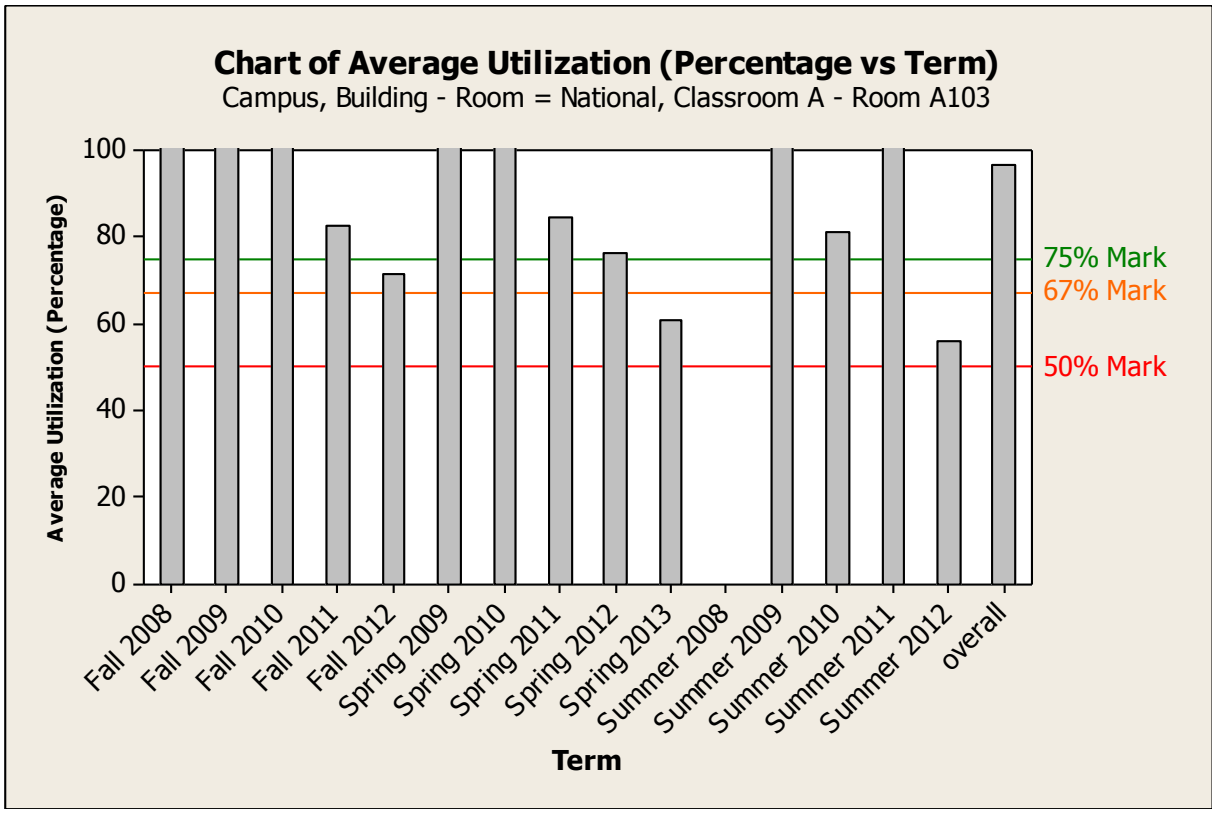
Classroom A – Room A101



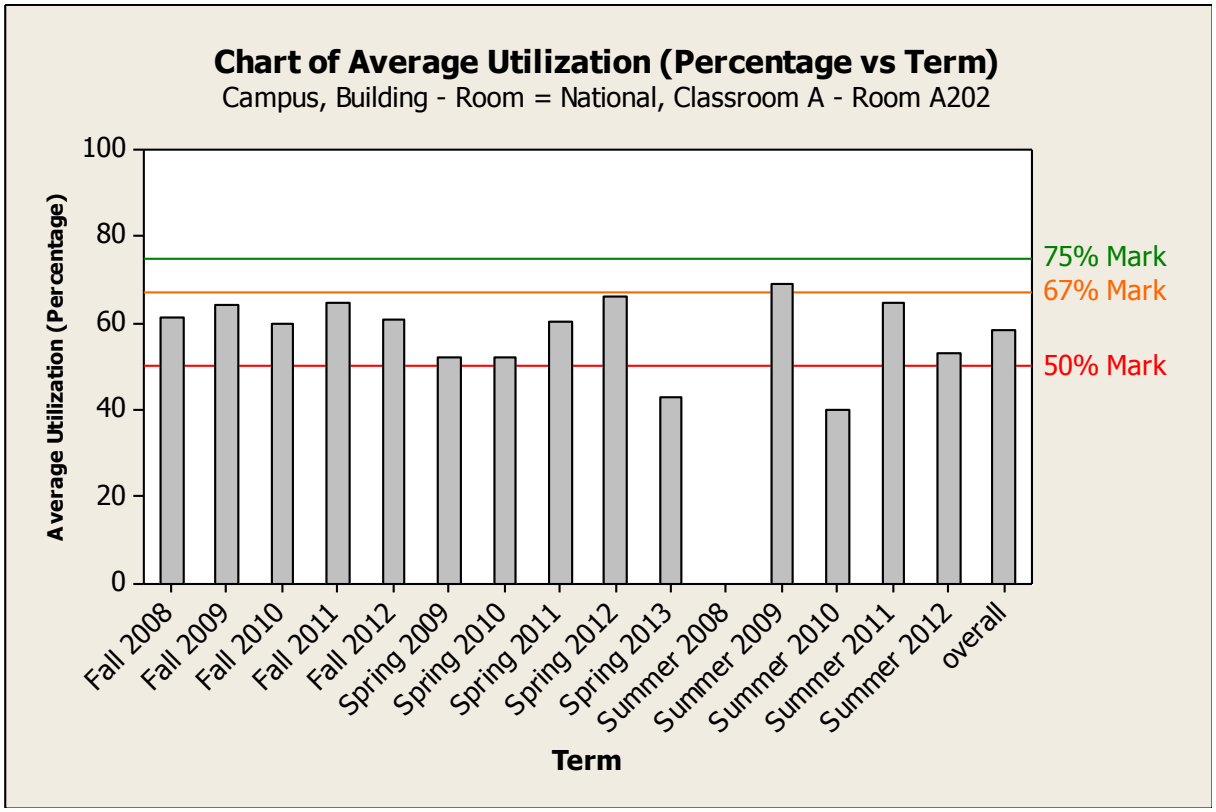
Classroom A – Room A102



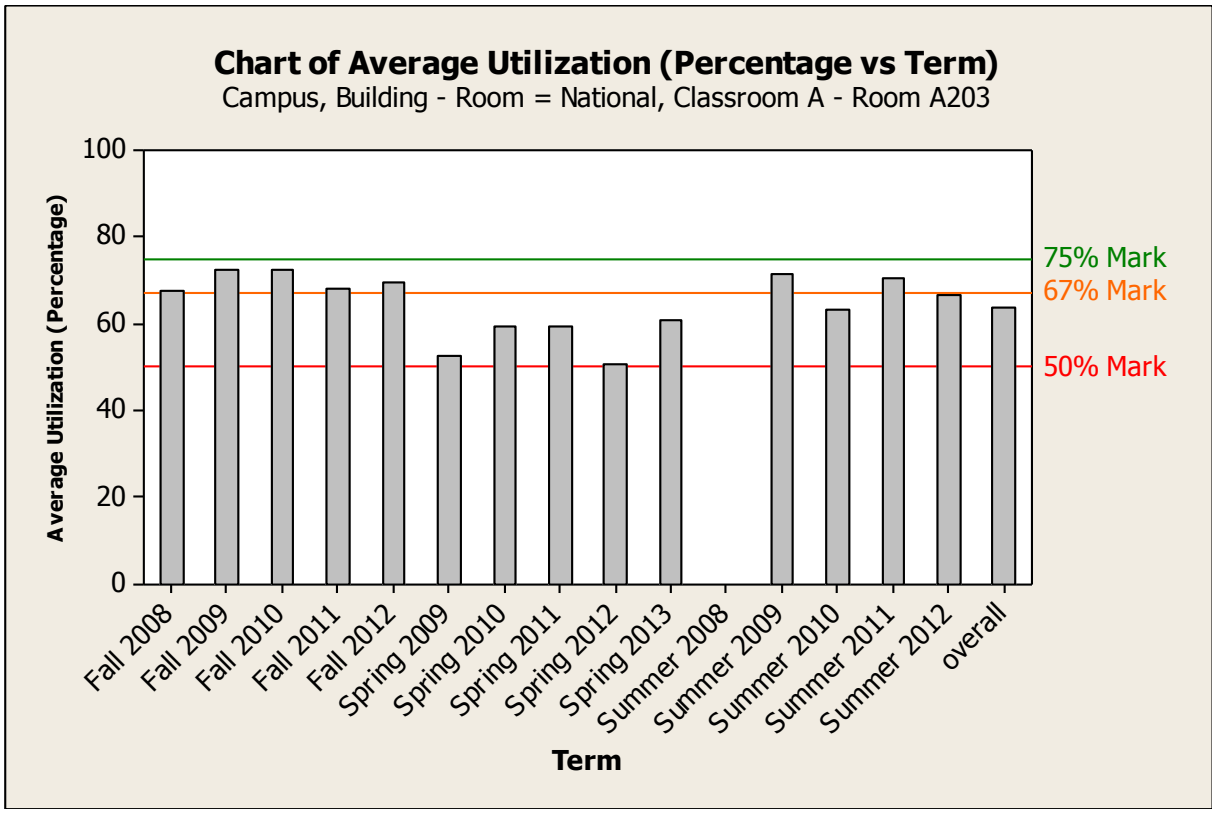
Classroom A – Room A103



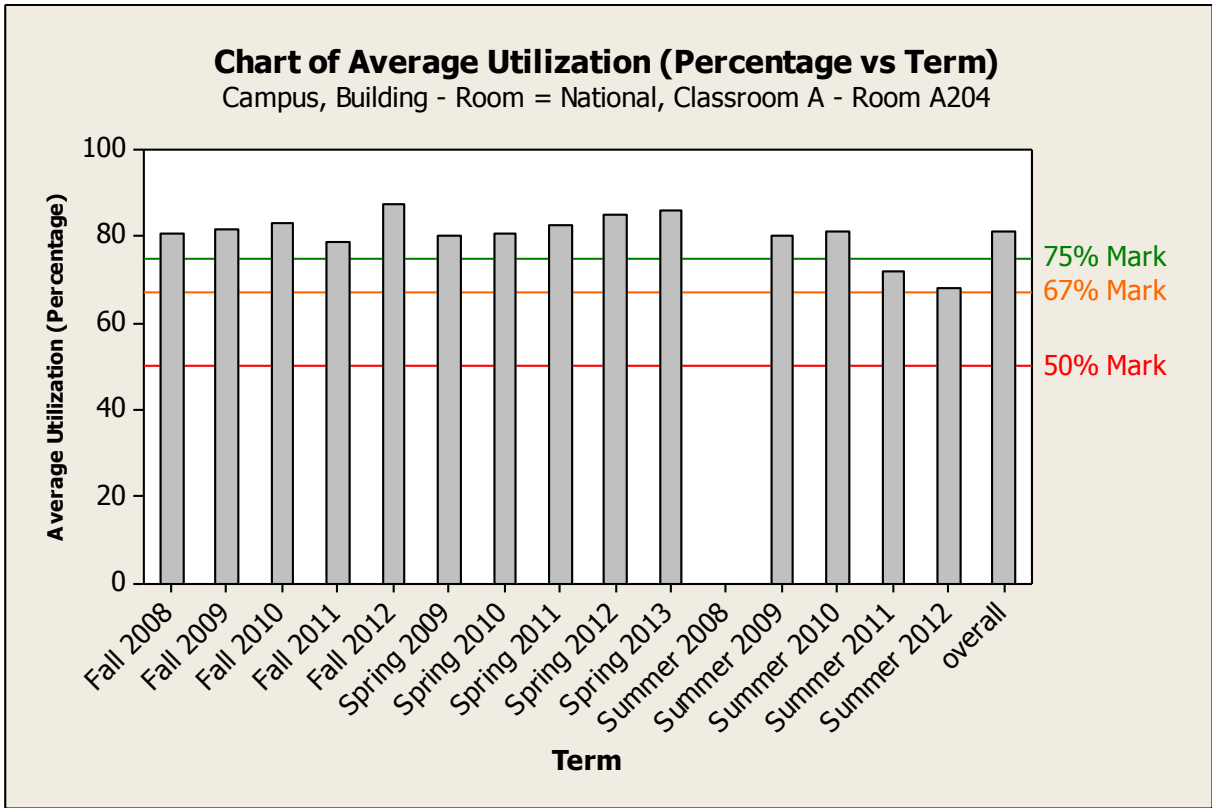
Classroom A – Room A202



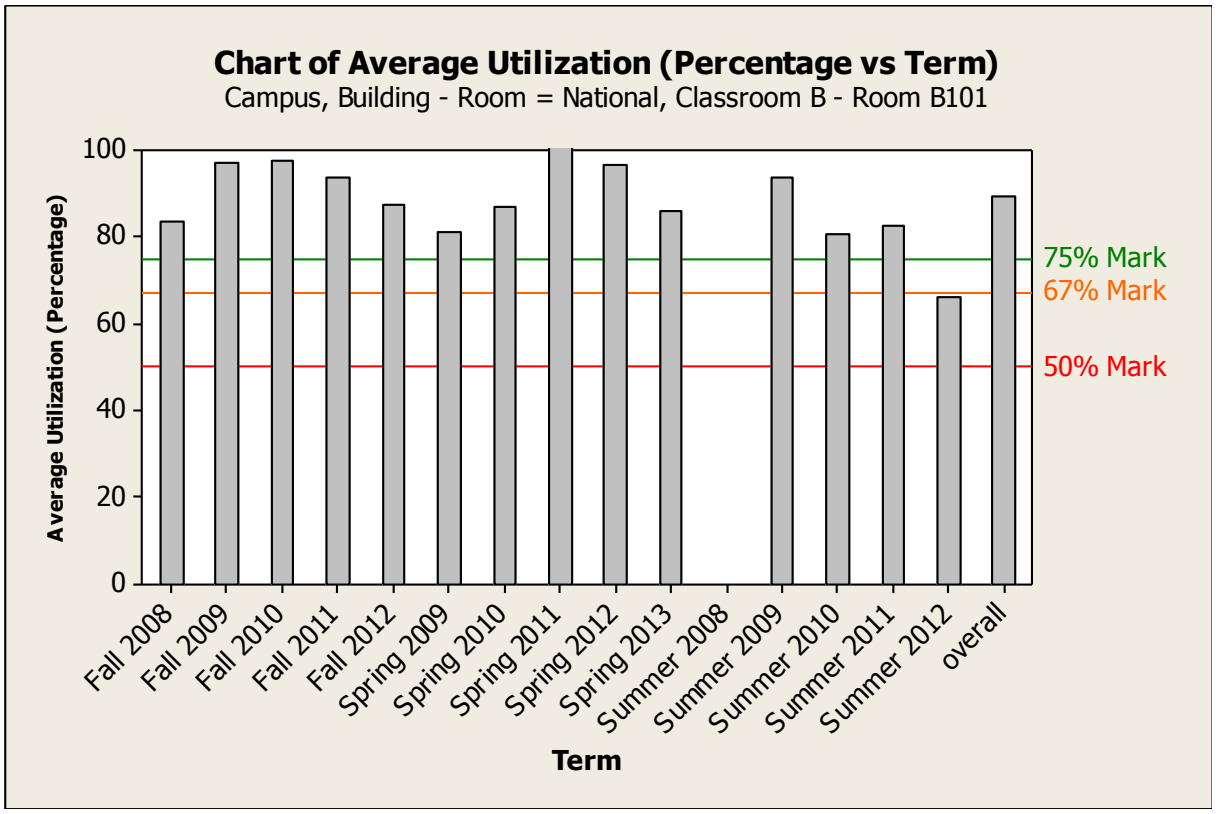
Classroom A – Room A203



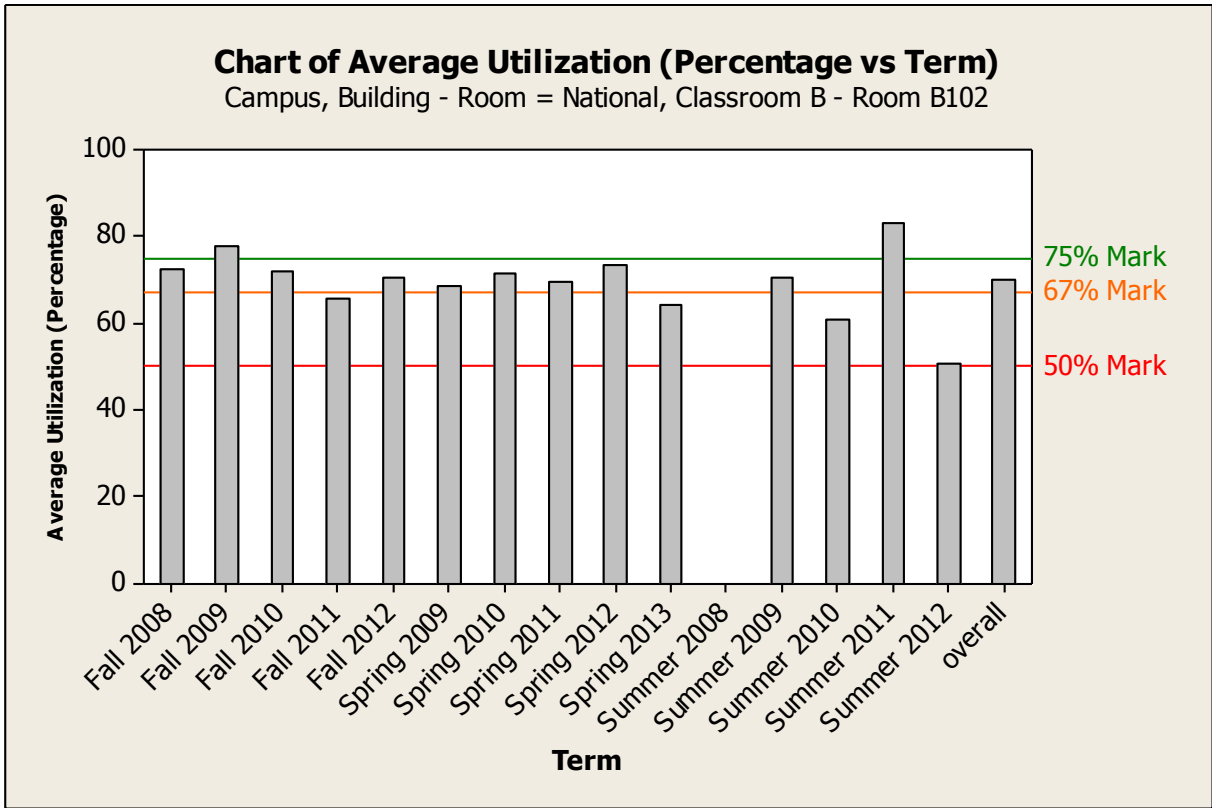
Classroom A – Room A204



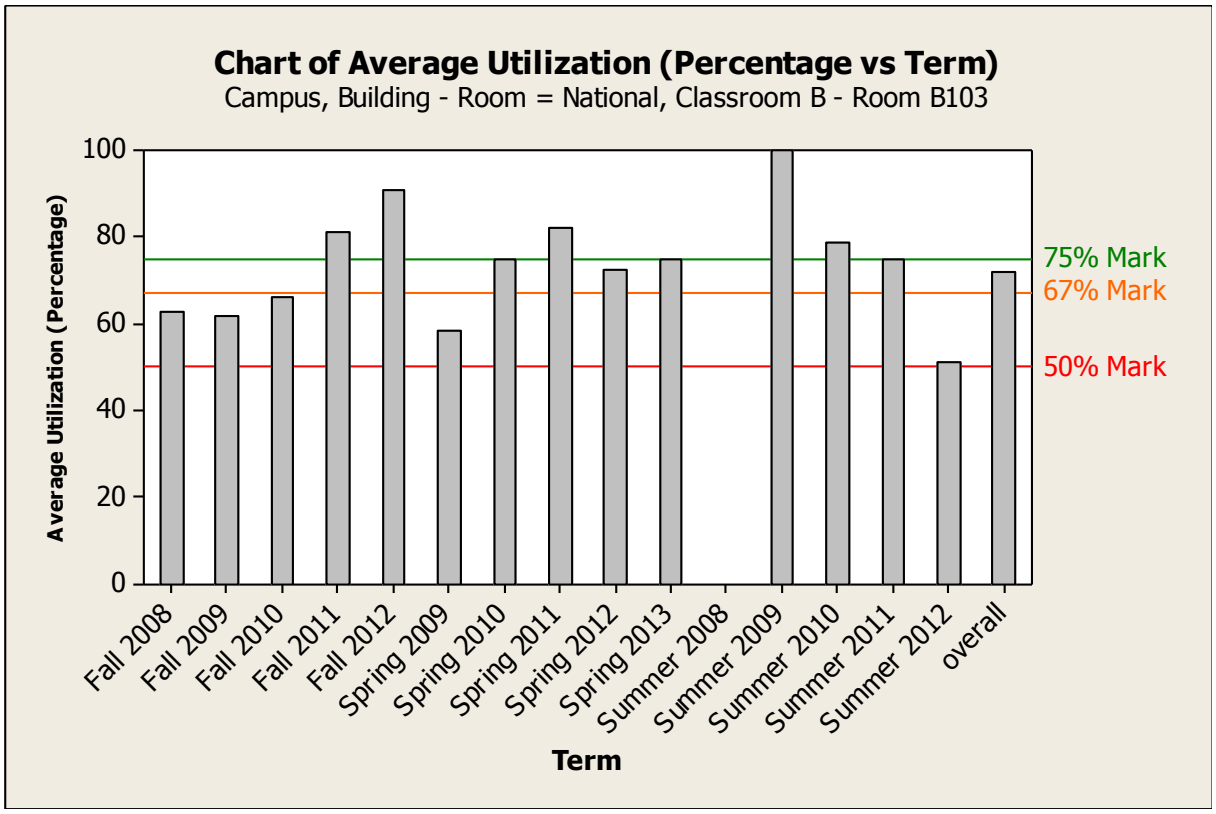
Classroom B – Room B101



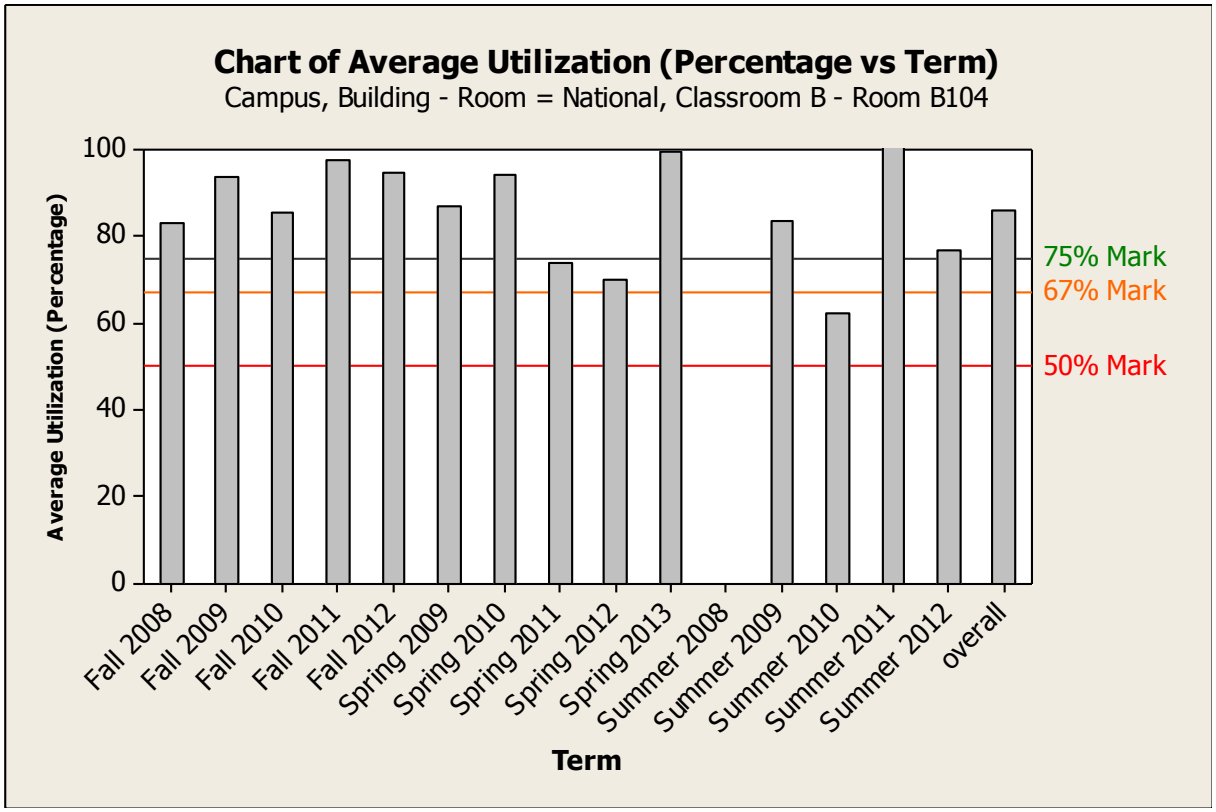
Classroom B – Room B102



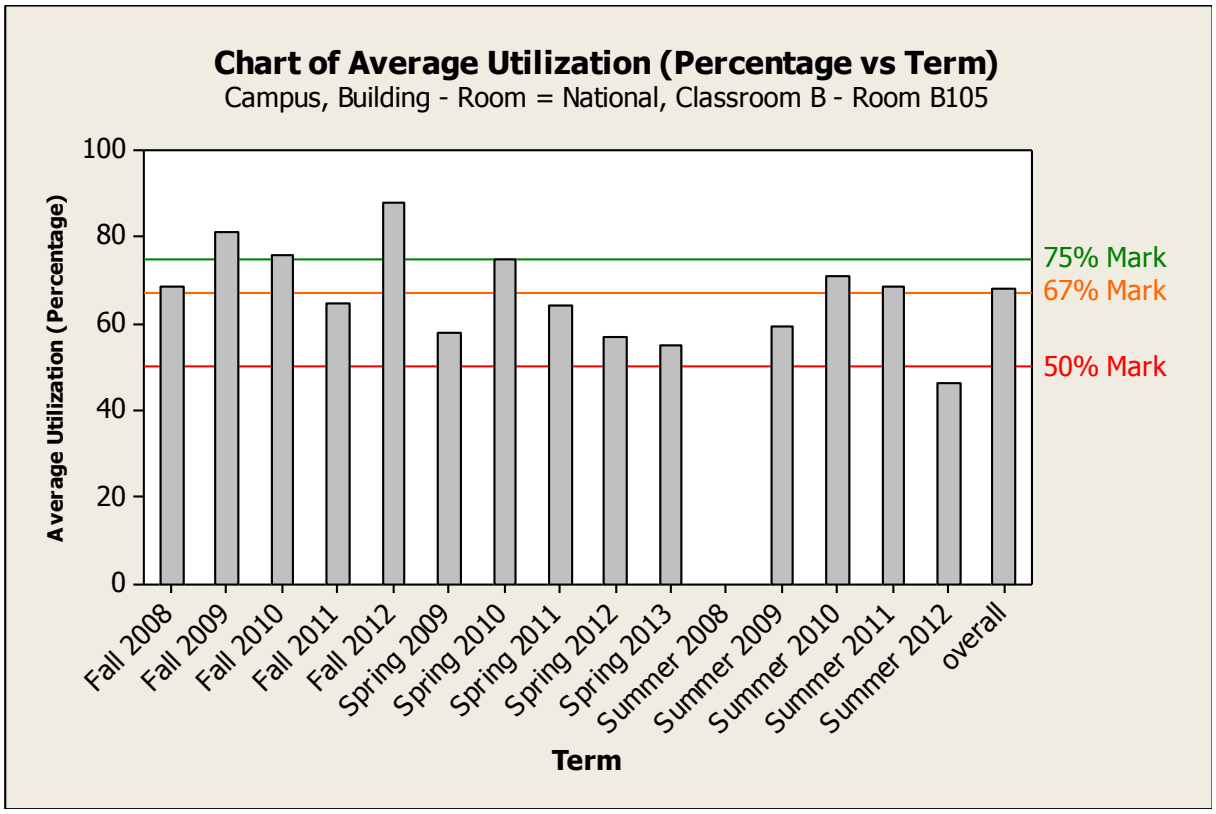
Classroom B – Room B103



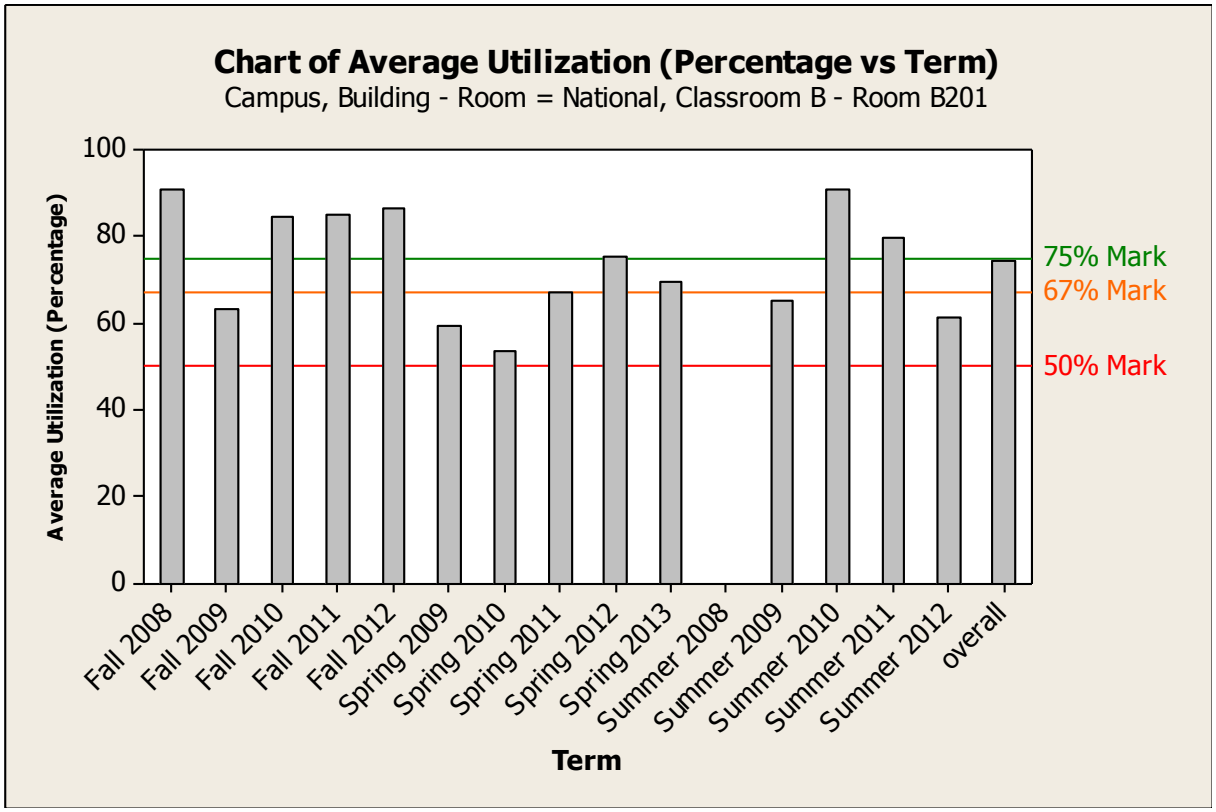
Classroom B – Room B104



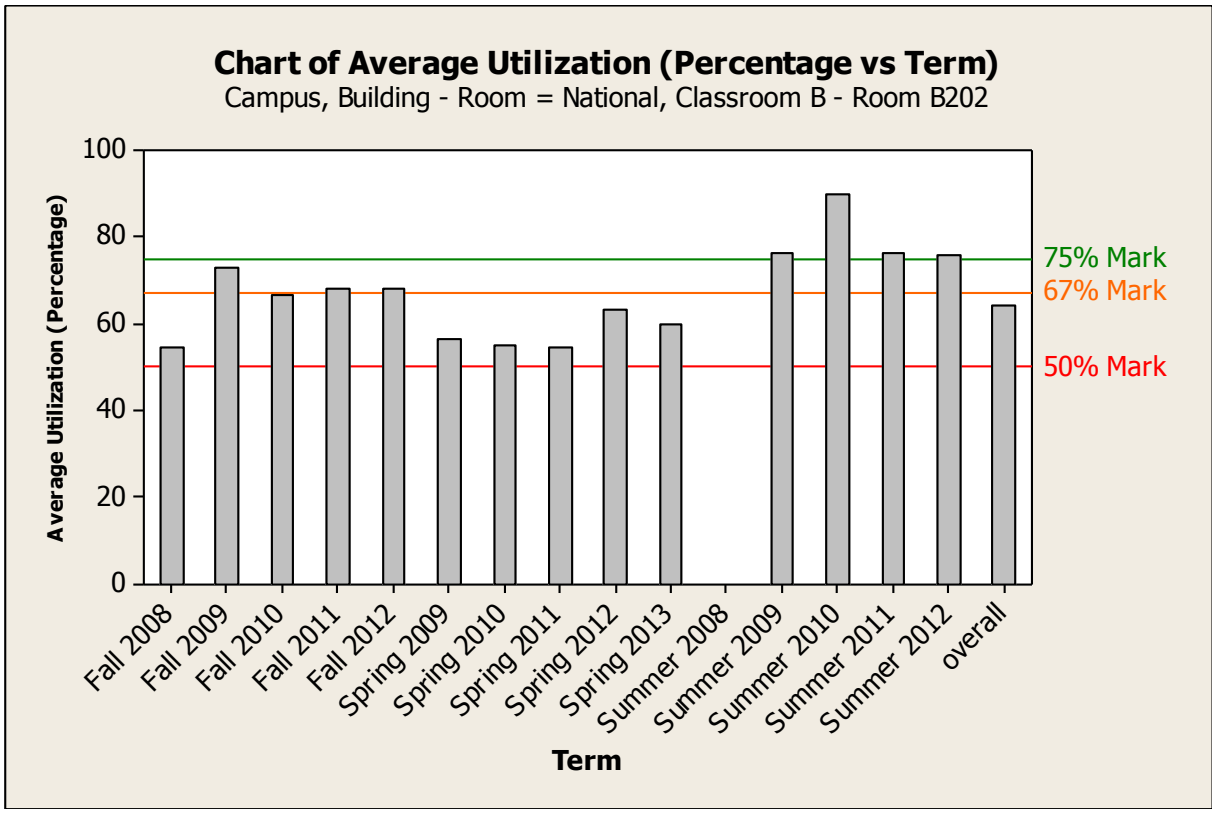
Classroom B – Room B105



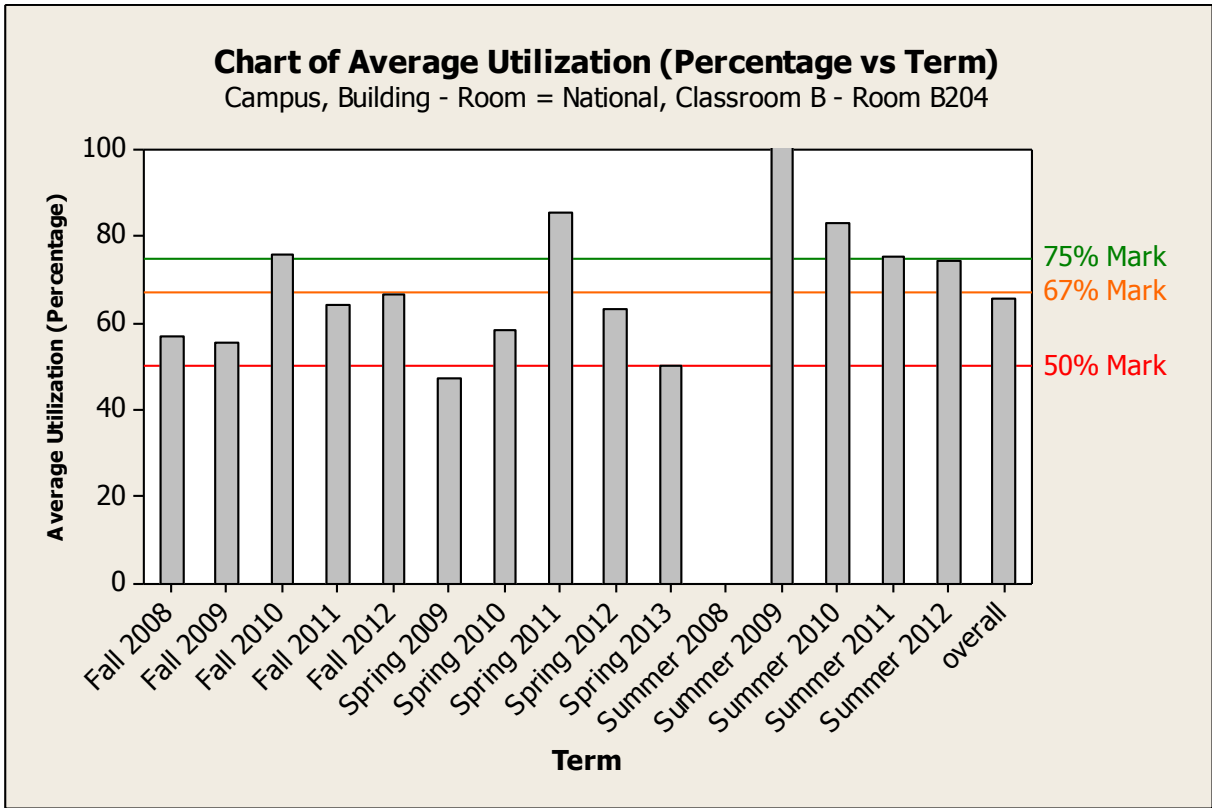
Classroom B – Room B201



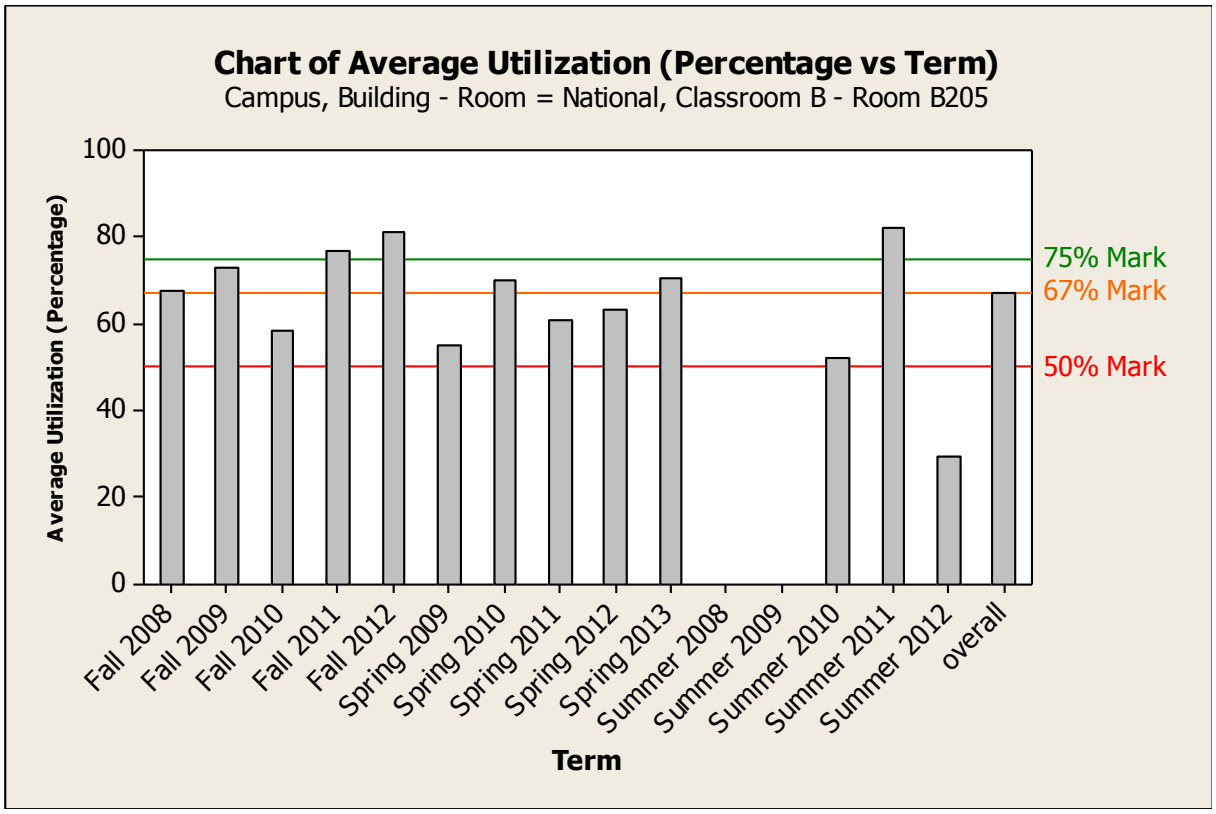
Classroom B – Room B202



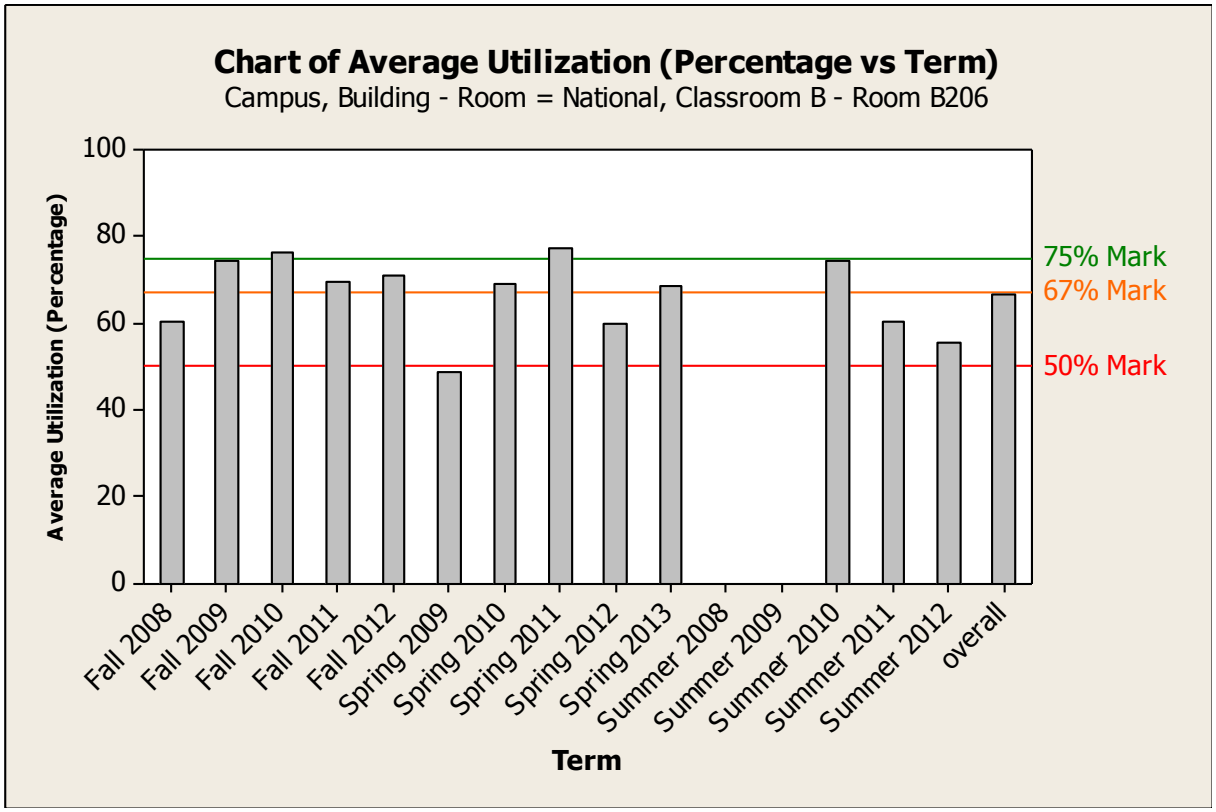
Classroom B – Room B204



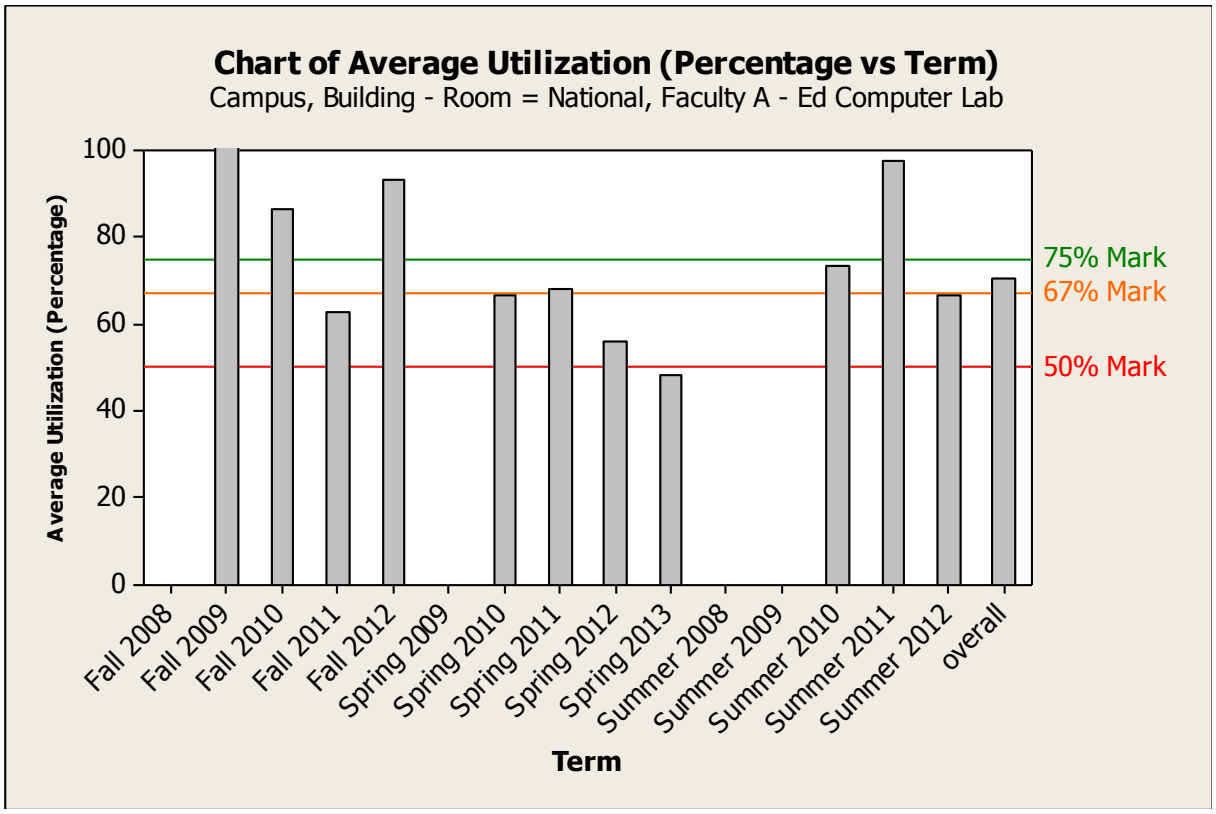
Classroom B – Room B205



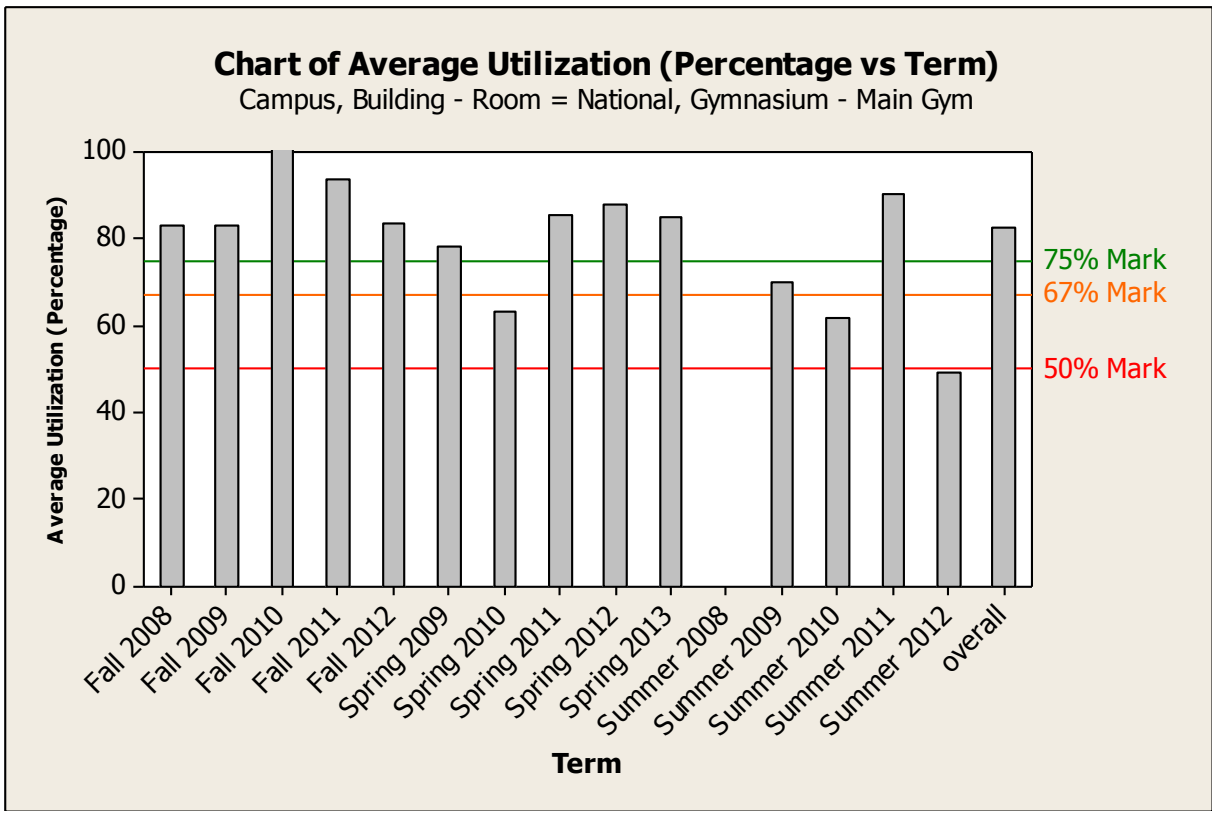
Classroom B – Room B206



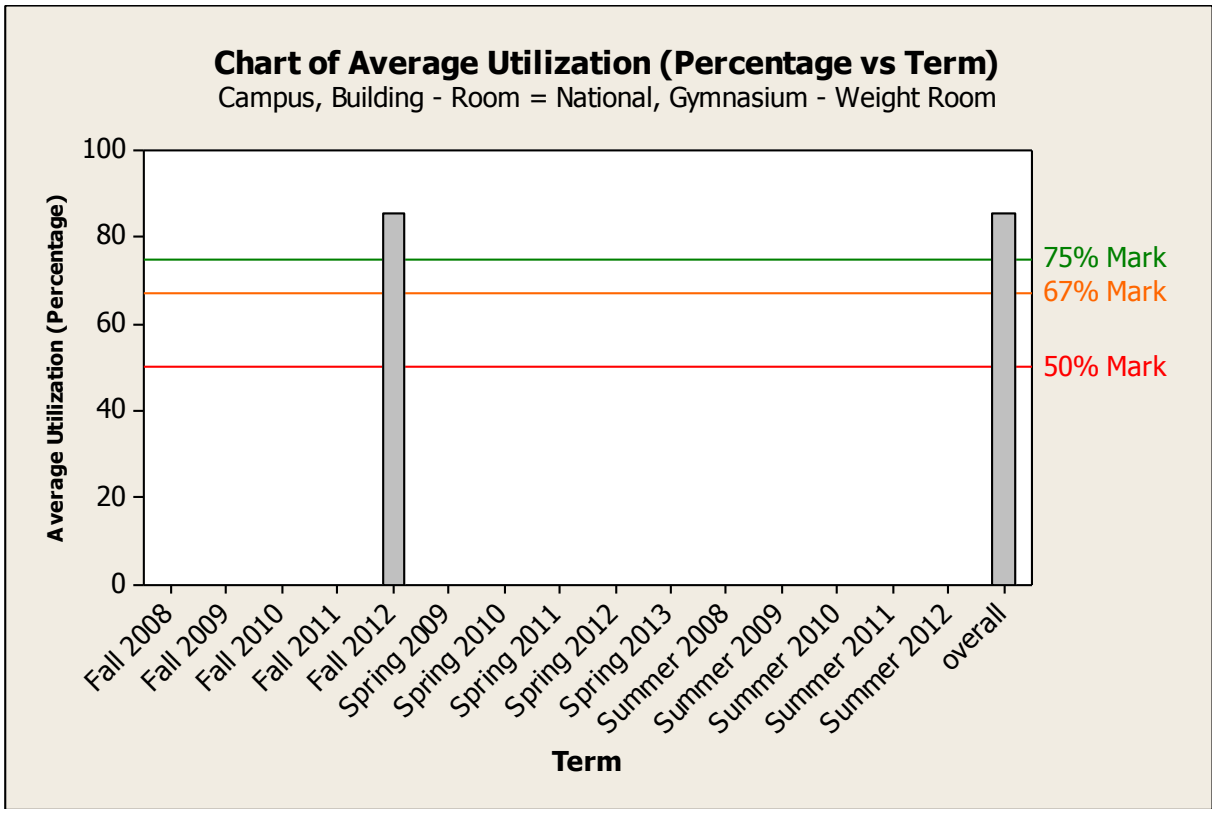
Faculty A, Ed Computer Lab



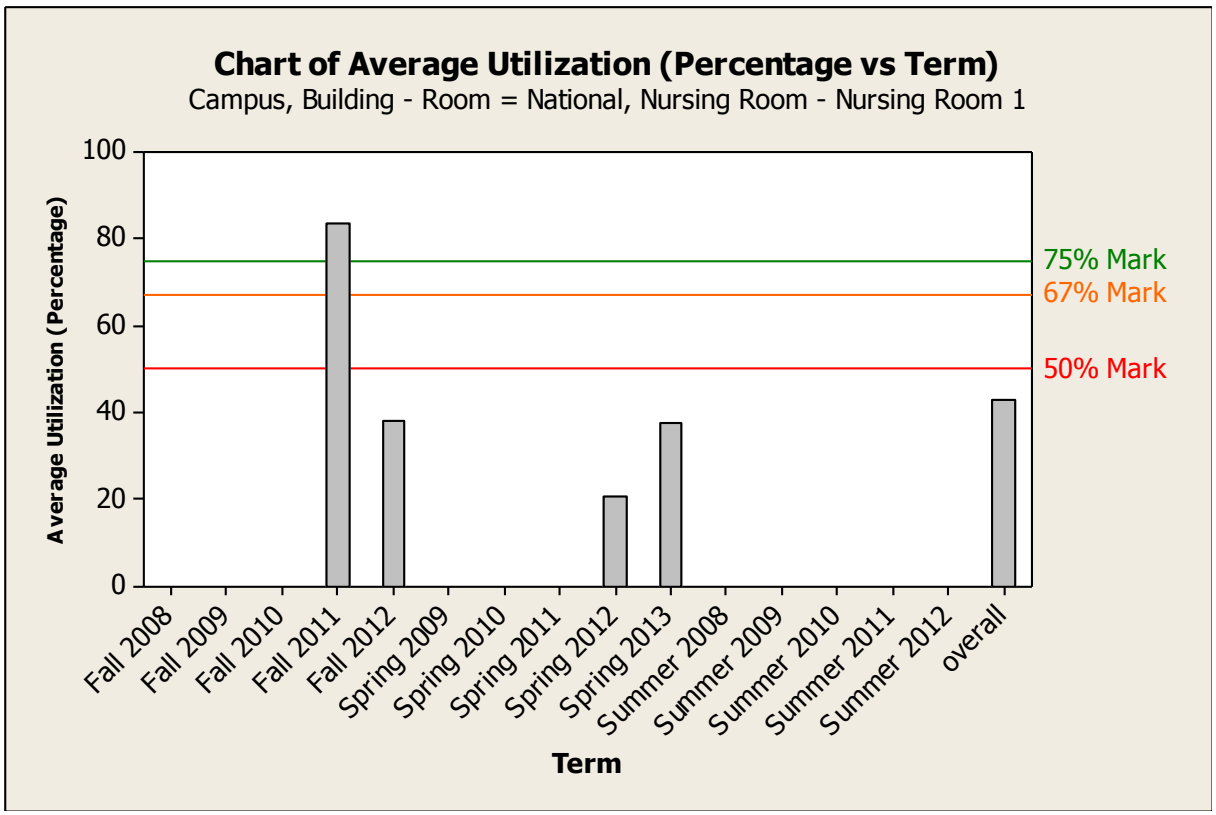
Main Gym



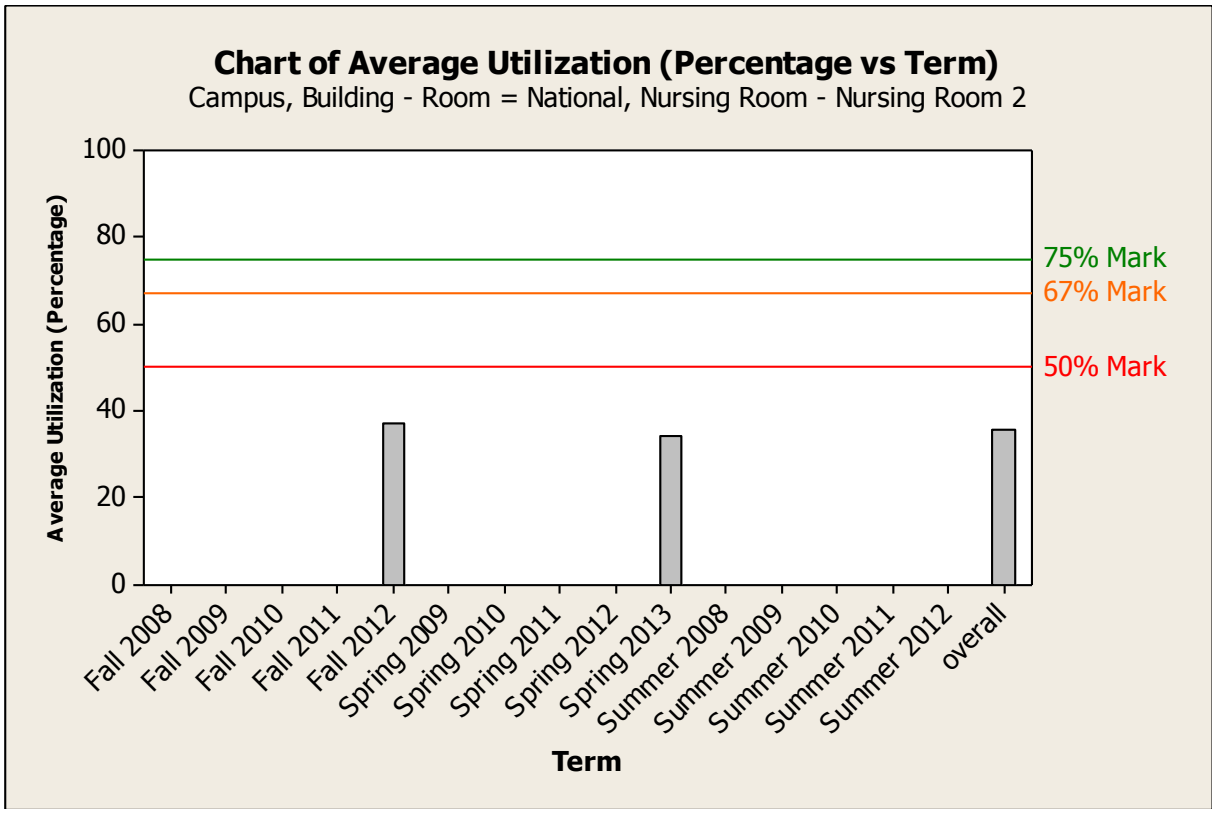
Weight Room



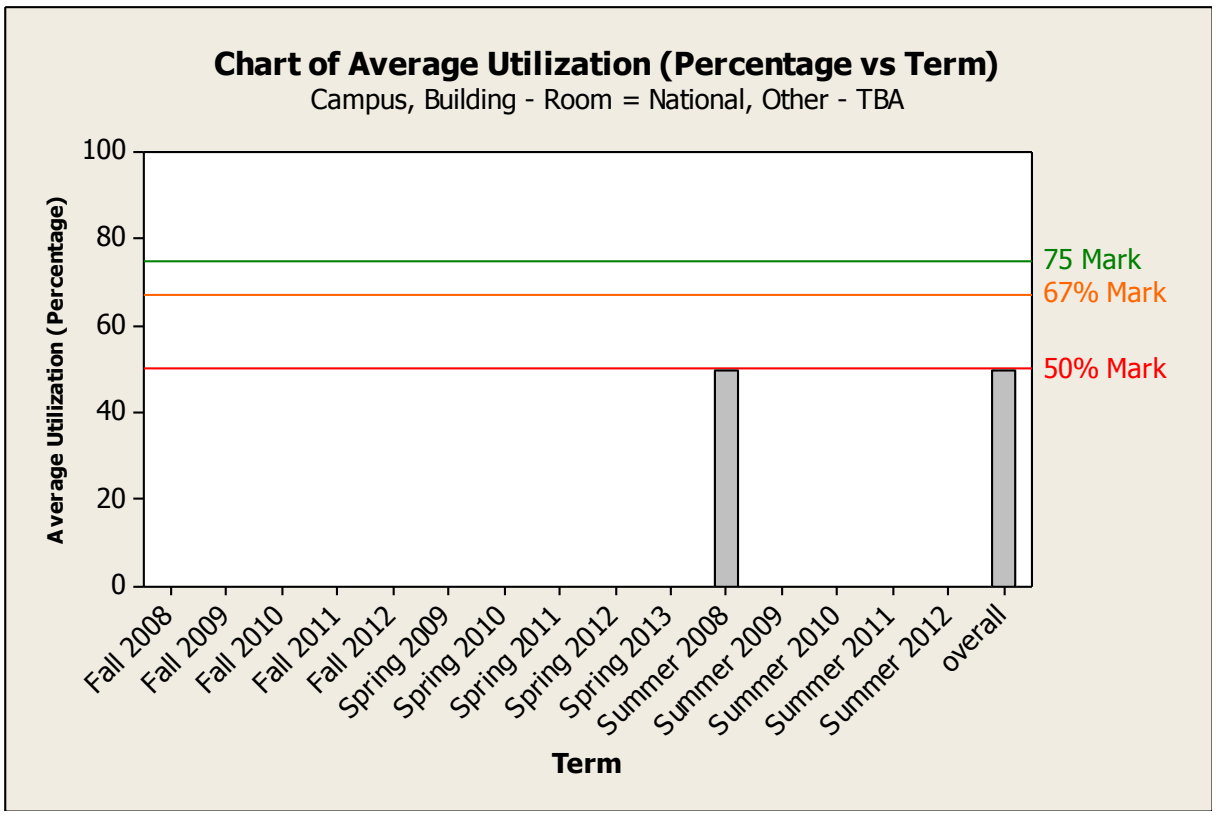
Nursing Room 1



Nursing Room 2



Other – TBA

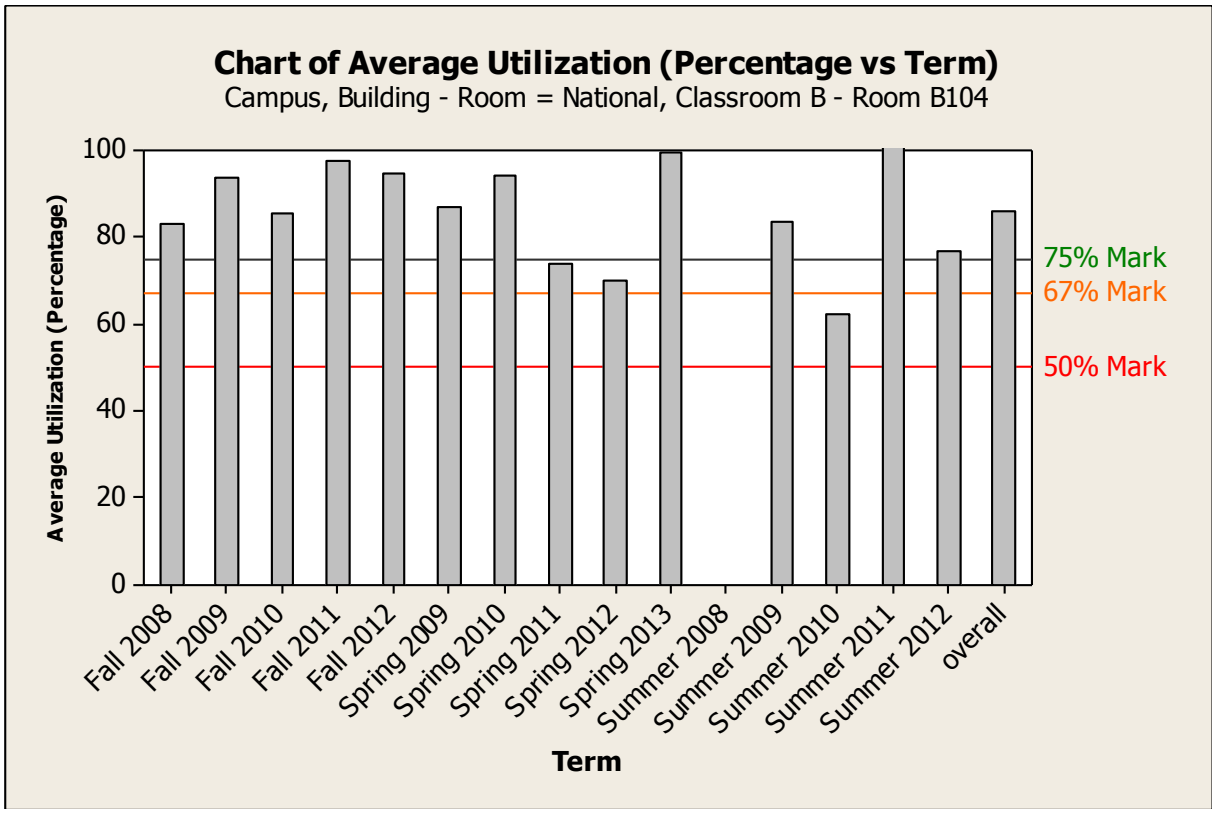


Pohnpei – 21 Rooms

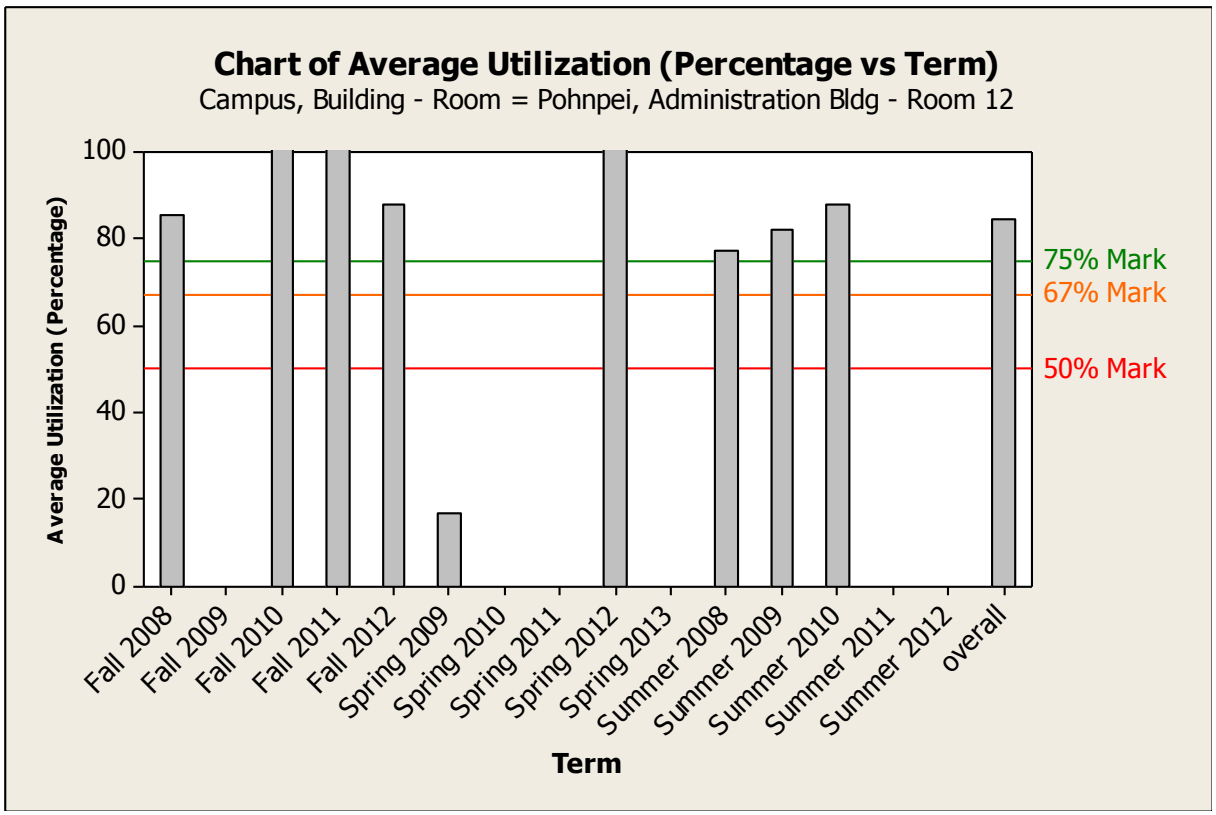
NOTE: Some rooms had average capacities above 100%, but these have only been shown to be 100% of the graphs.

NOTE 2: In the dataset there is a room entitled “Other” on the Pohnpei campus. It is unknown if this is actually a unique location or a missing value in the dataset. The analysis has treated this “Other” space as a unique classroom.

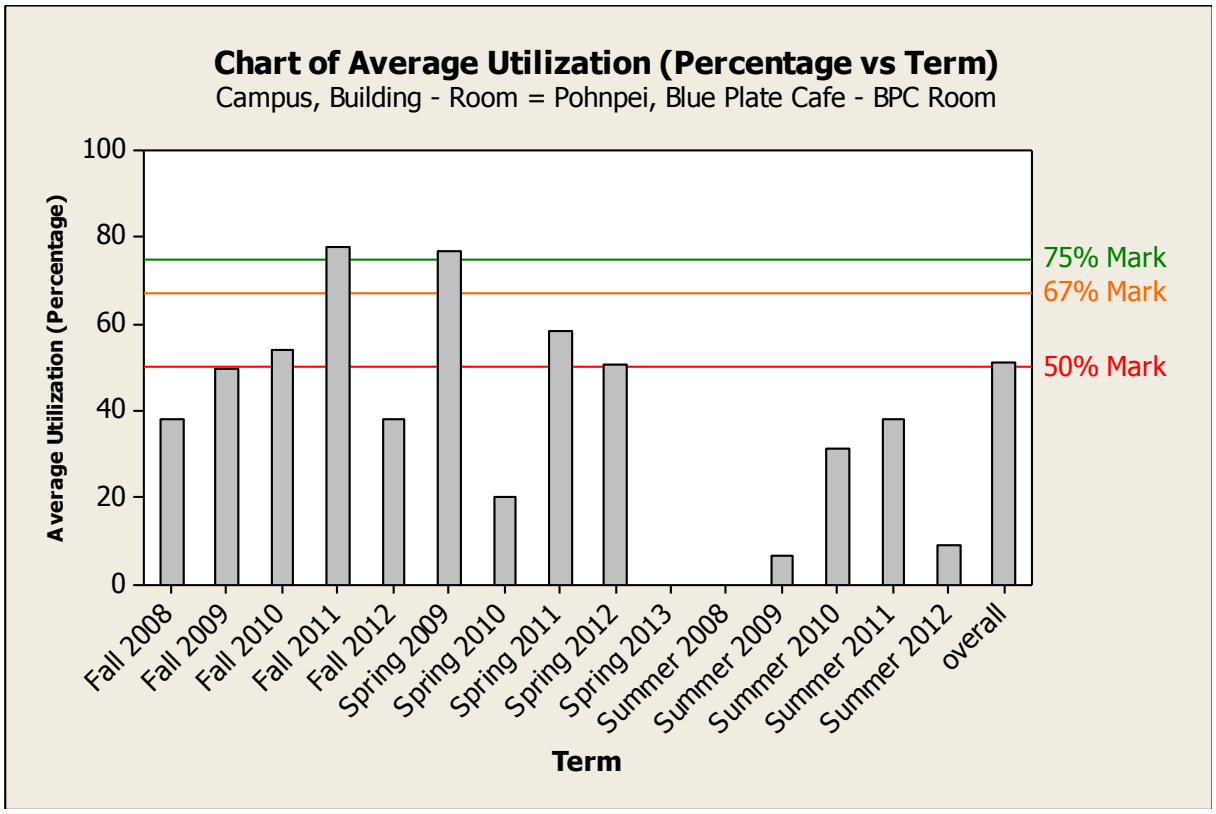
Admin Bldg – Room 11



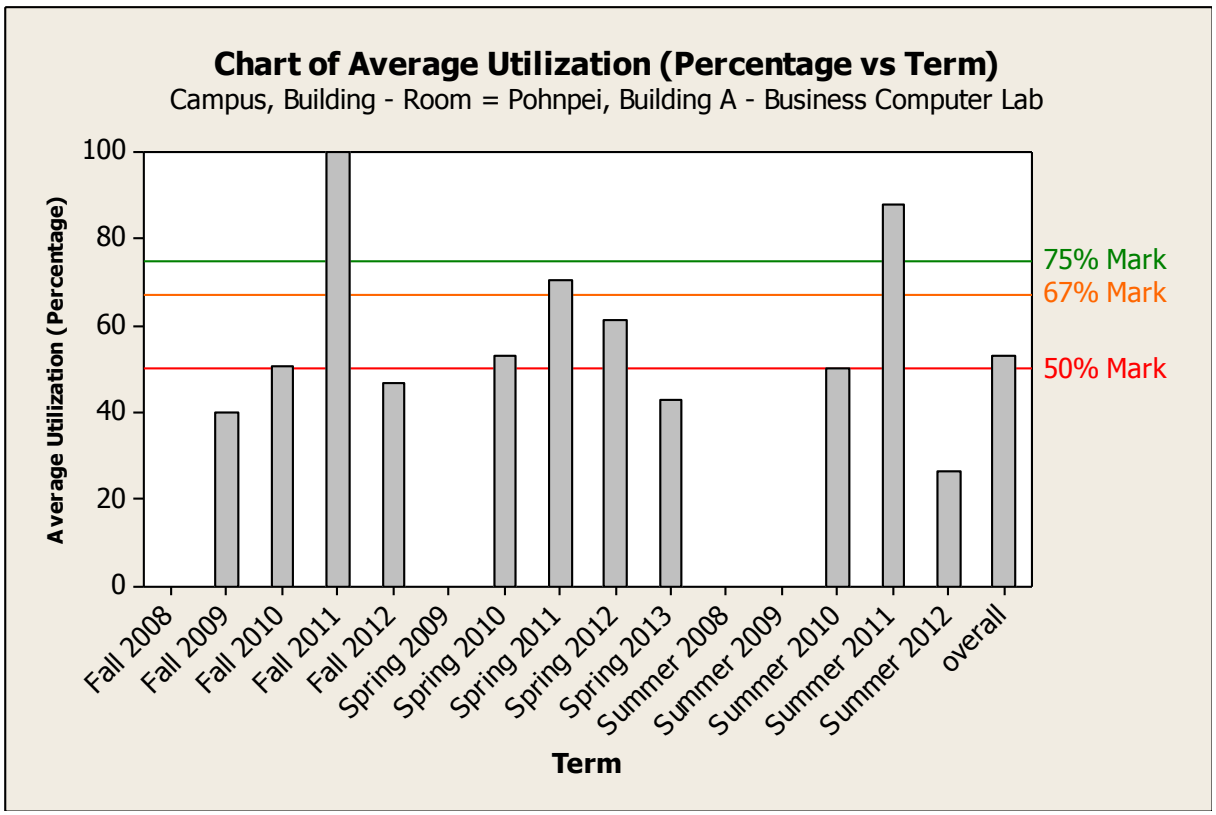
Admin Bldg – Room 12



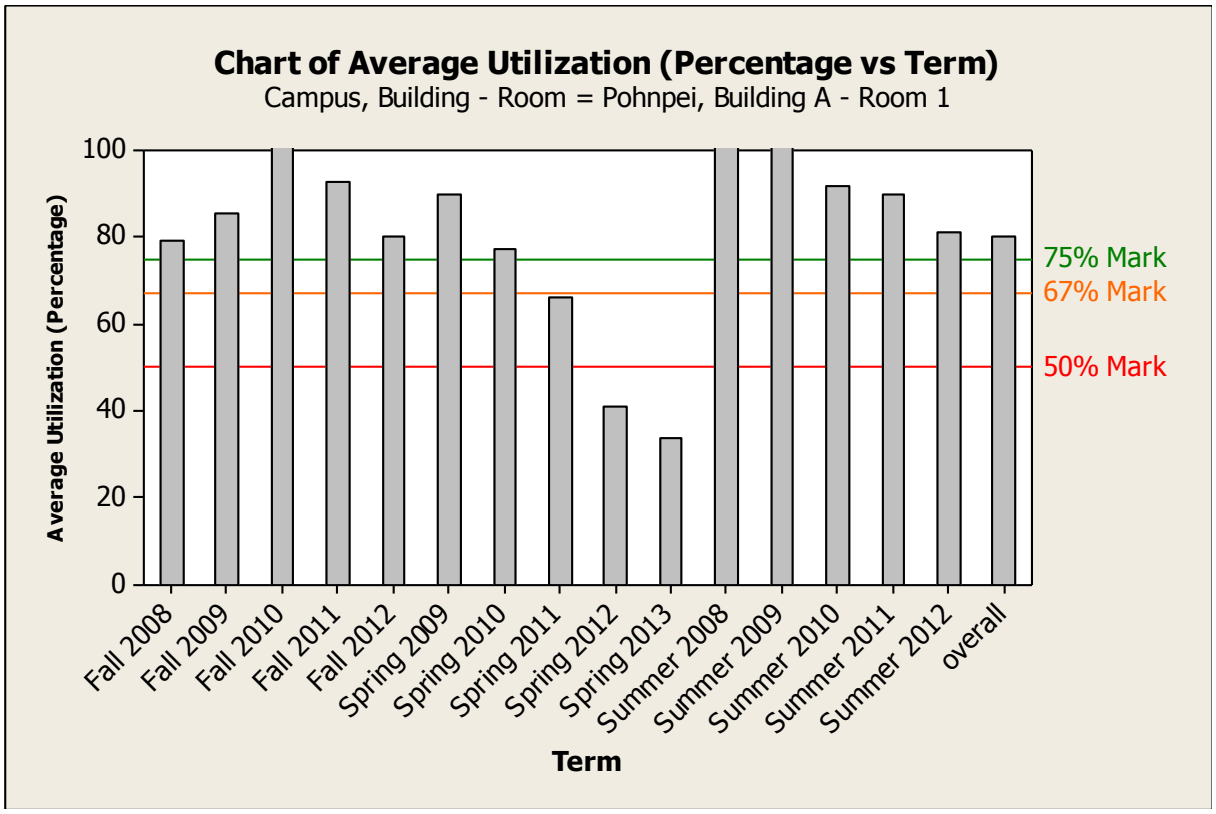
Blue Plate Café



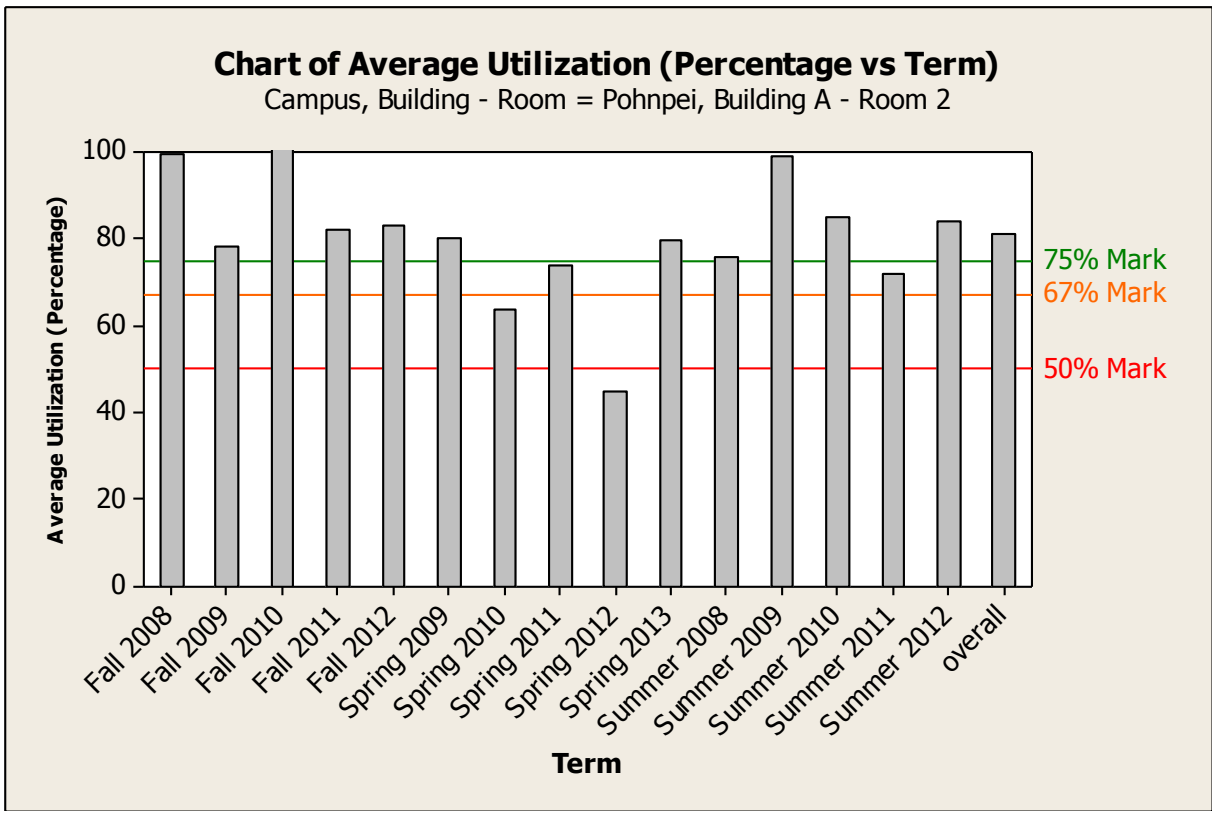
Building A, Business Computer Lab



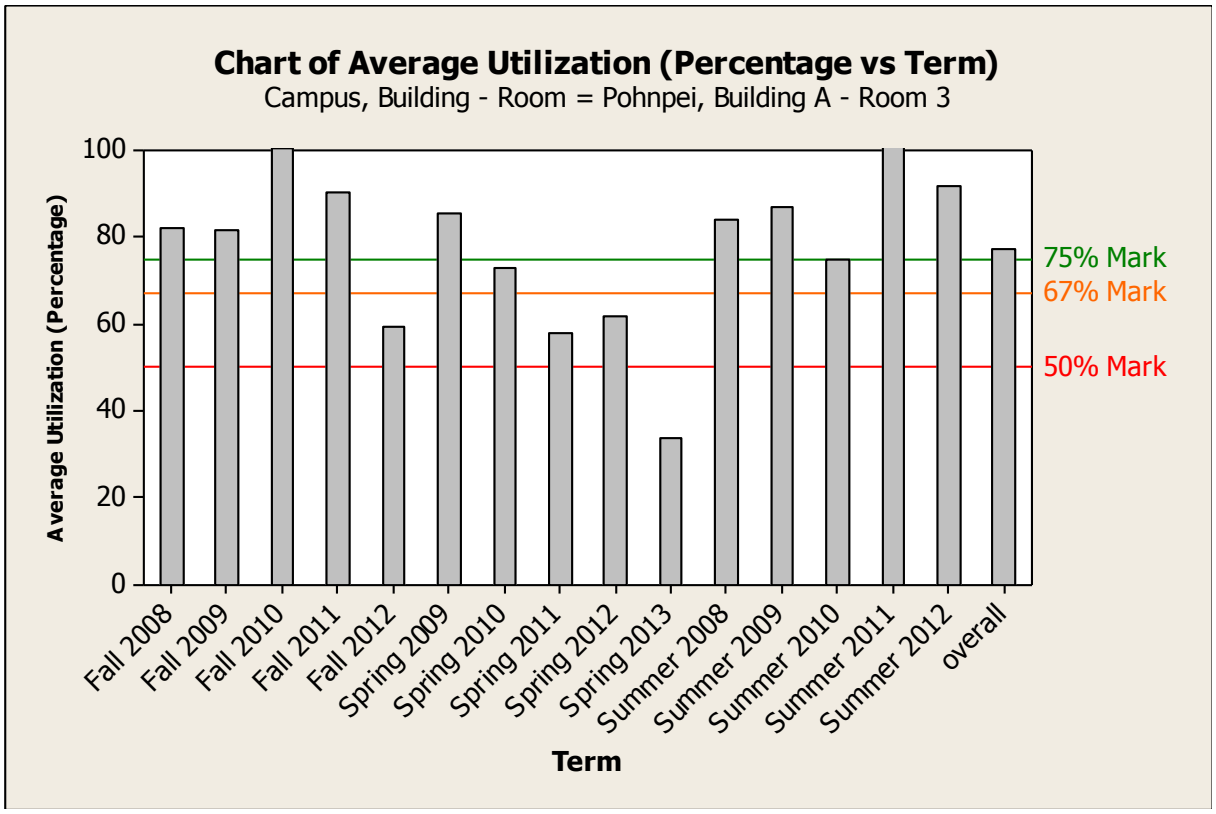
Building A, Room 1



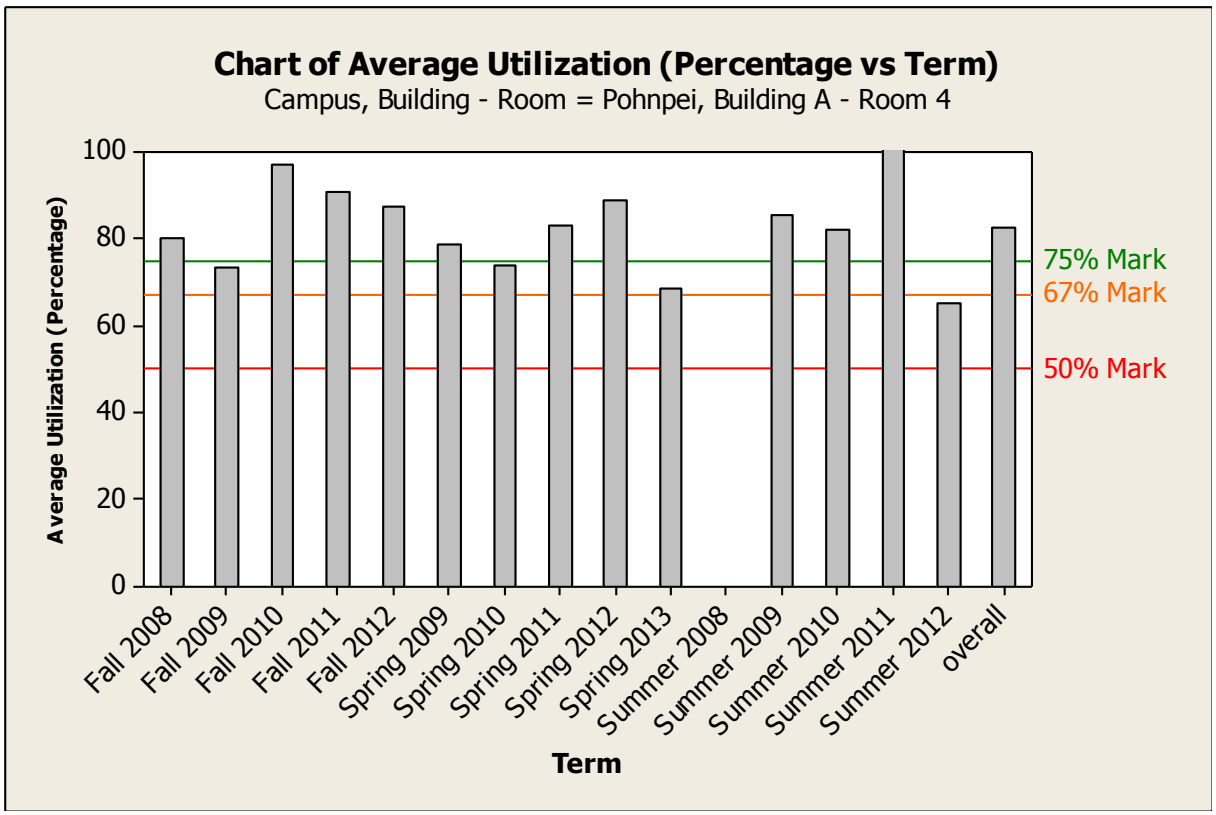
Building A, Room 2



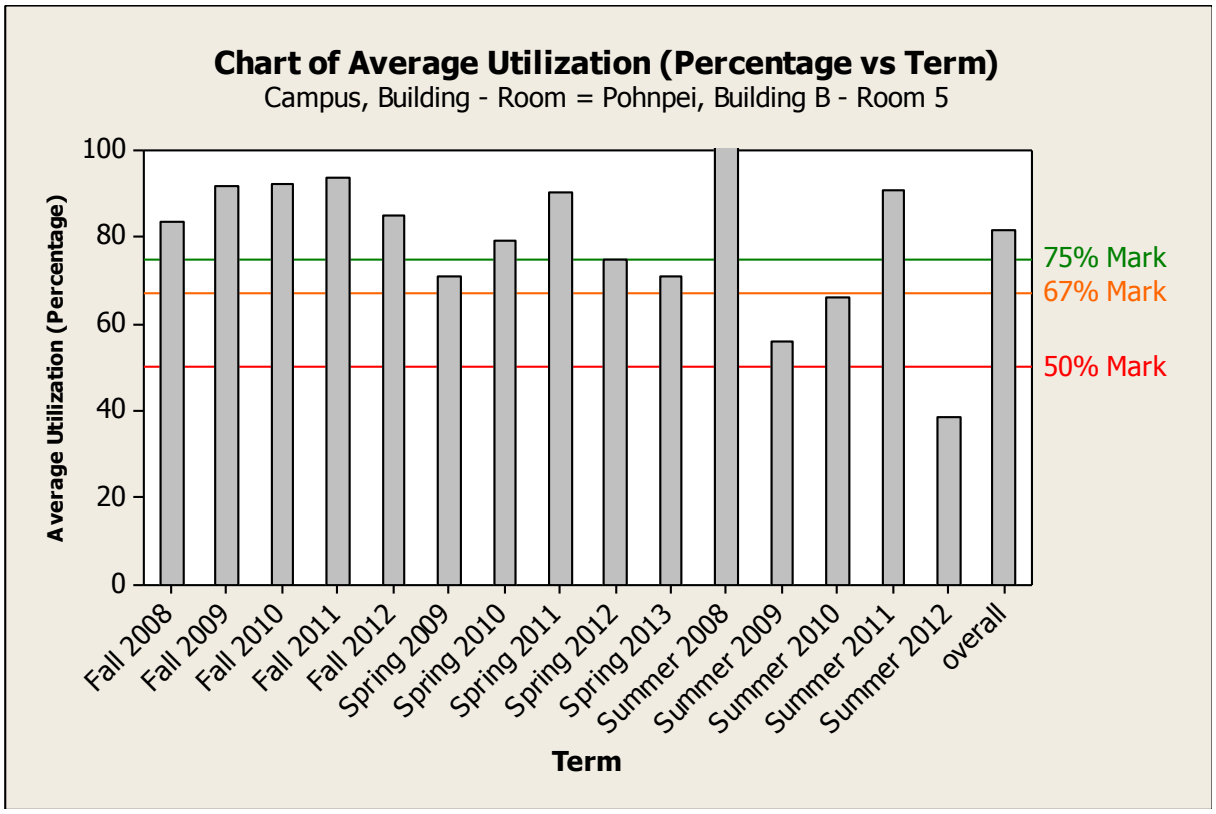
Building A, Room 3



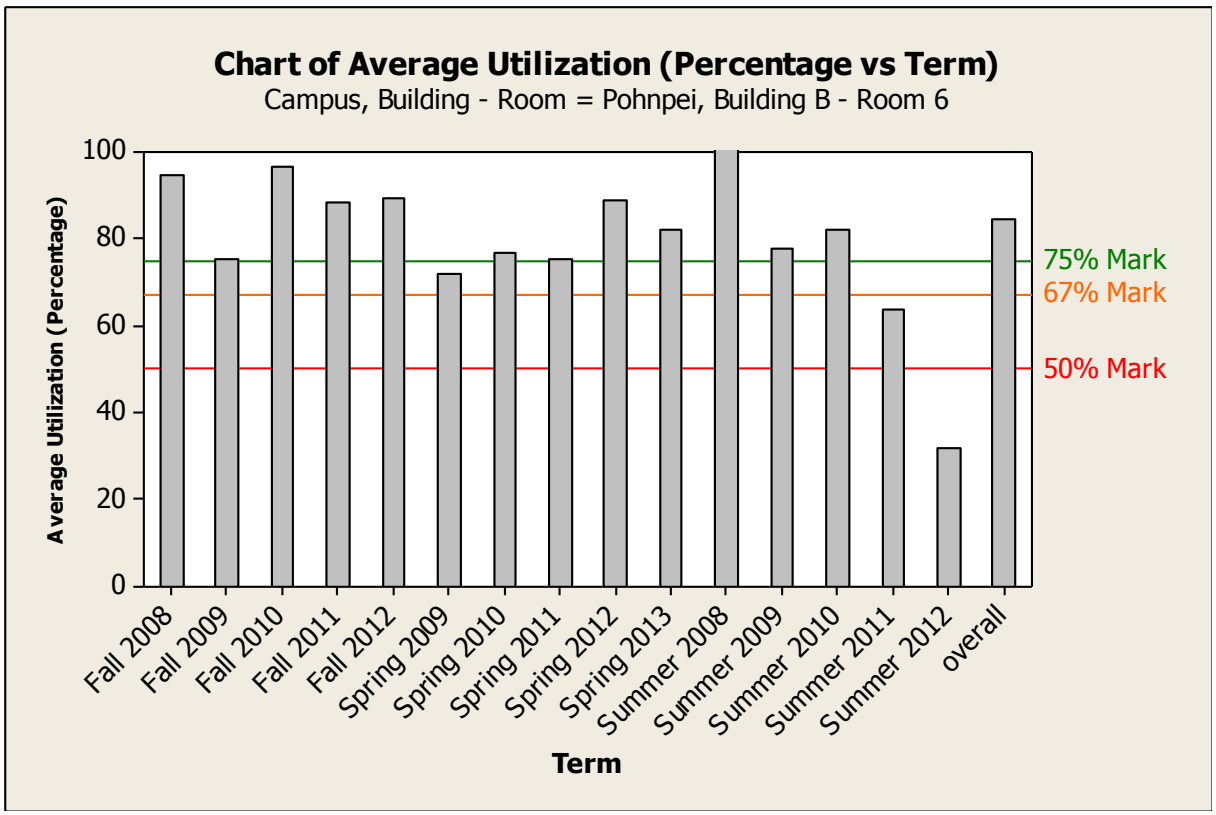
Building A, Room 4



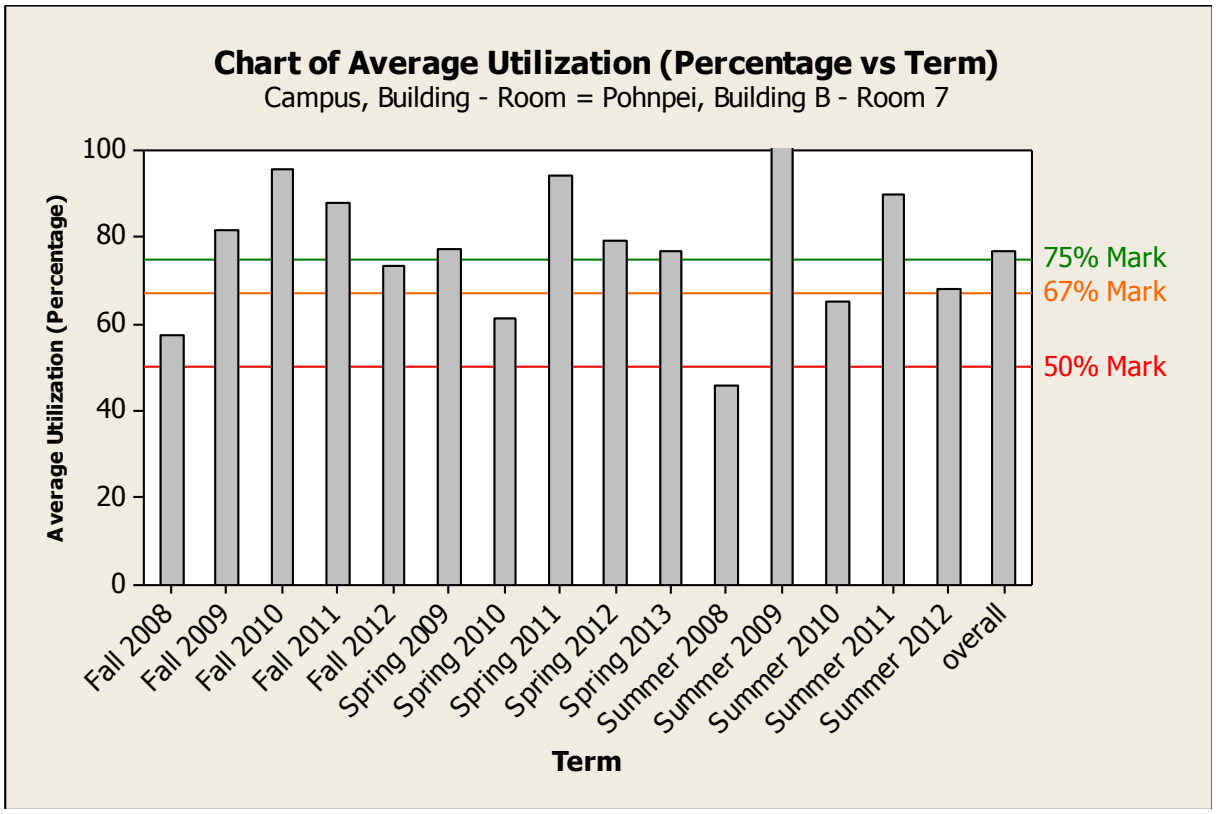
Building B, Room 5



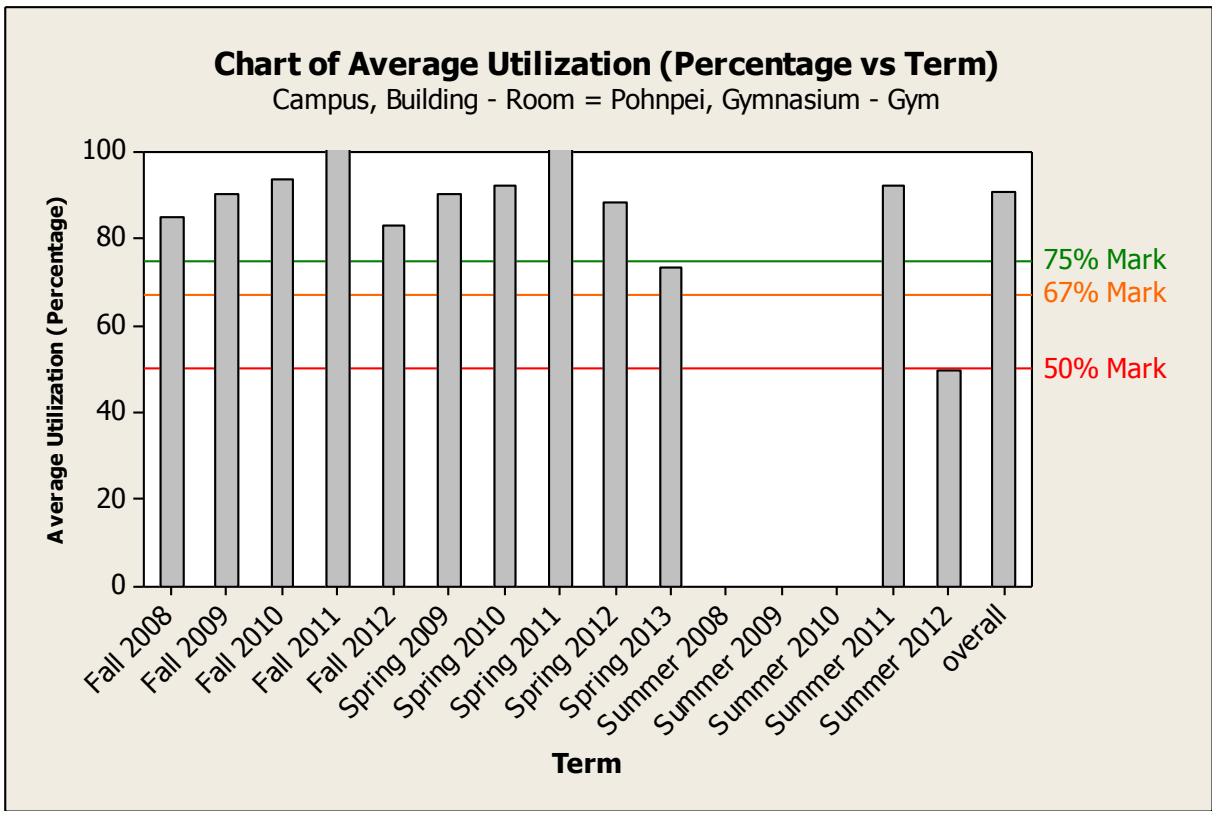
Building B, Room 6



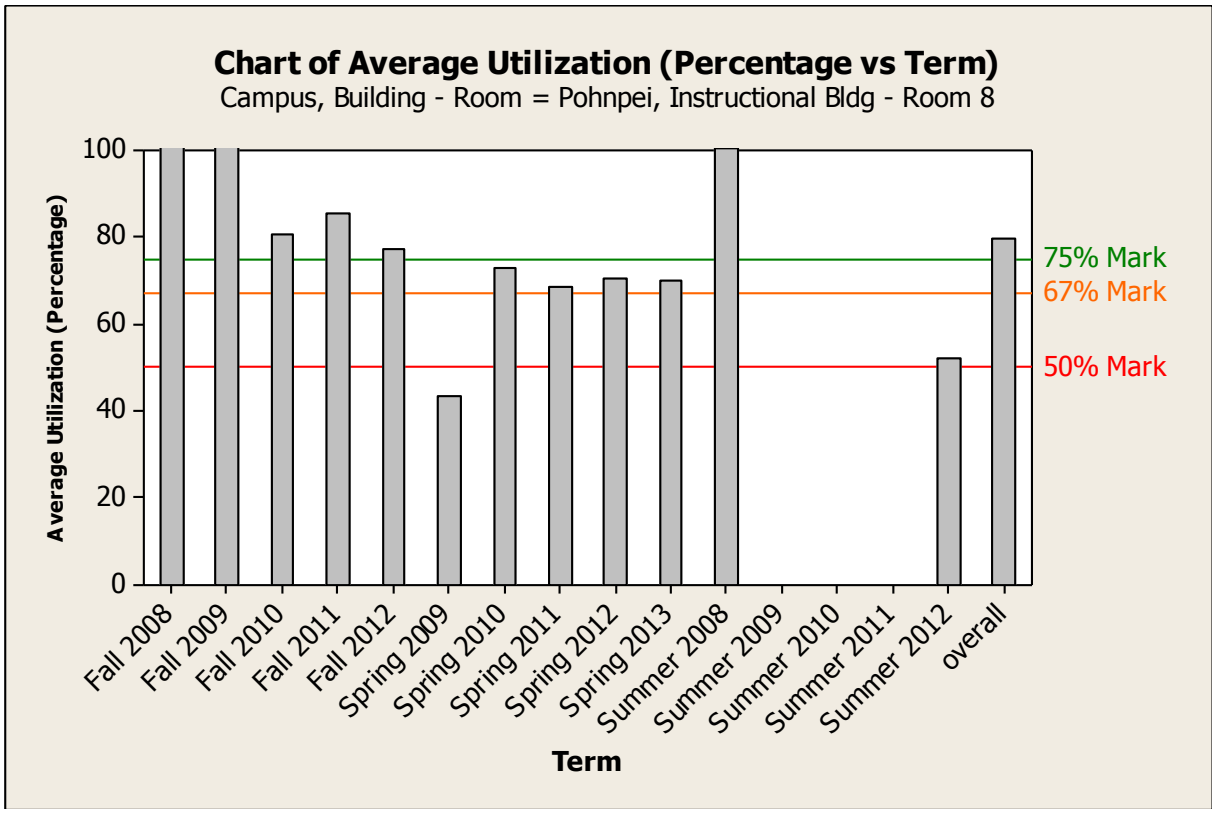
Building B, Room 7



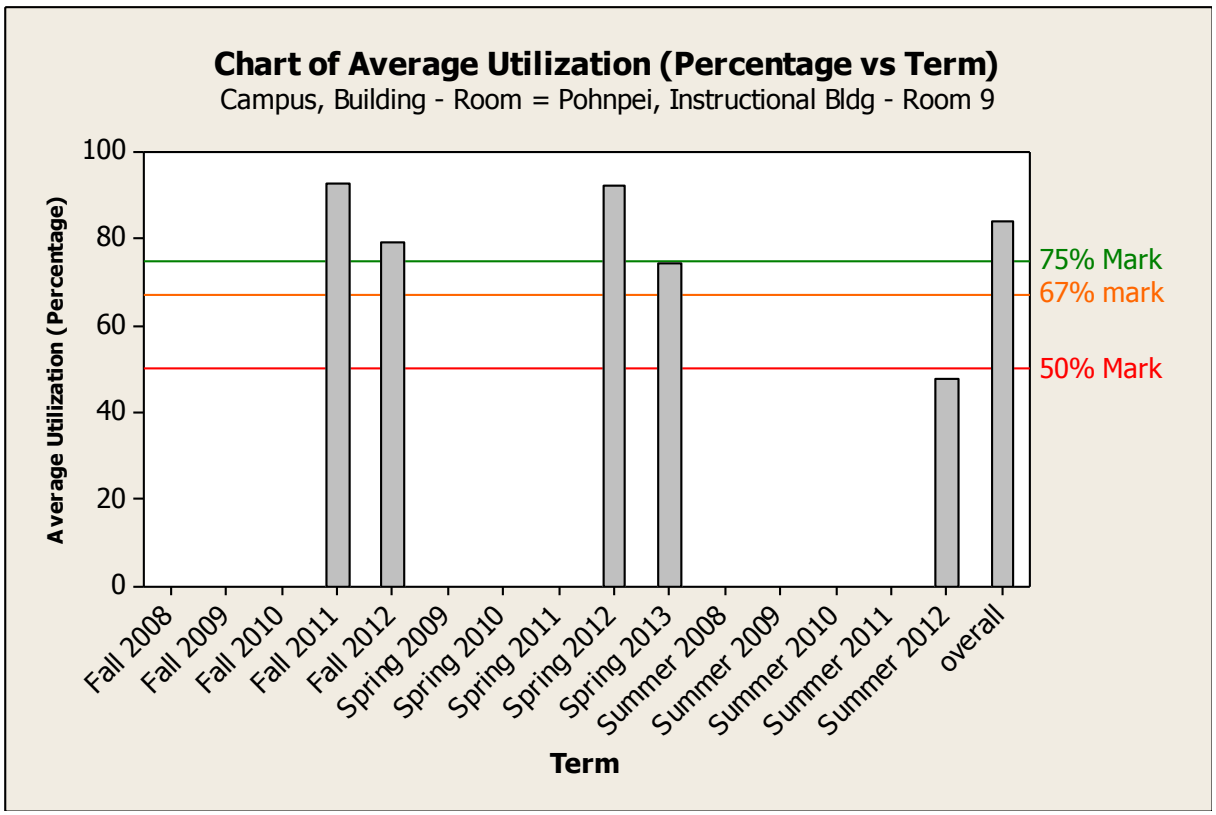
Gym



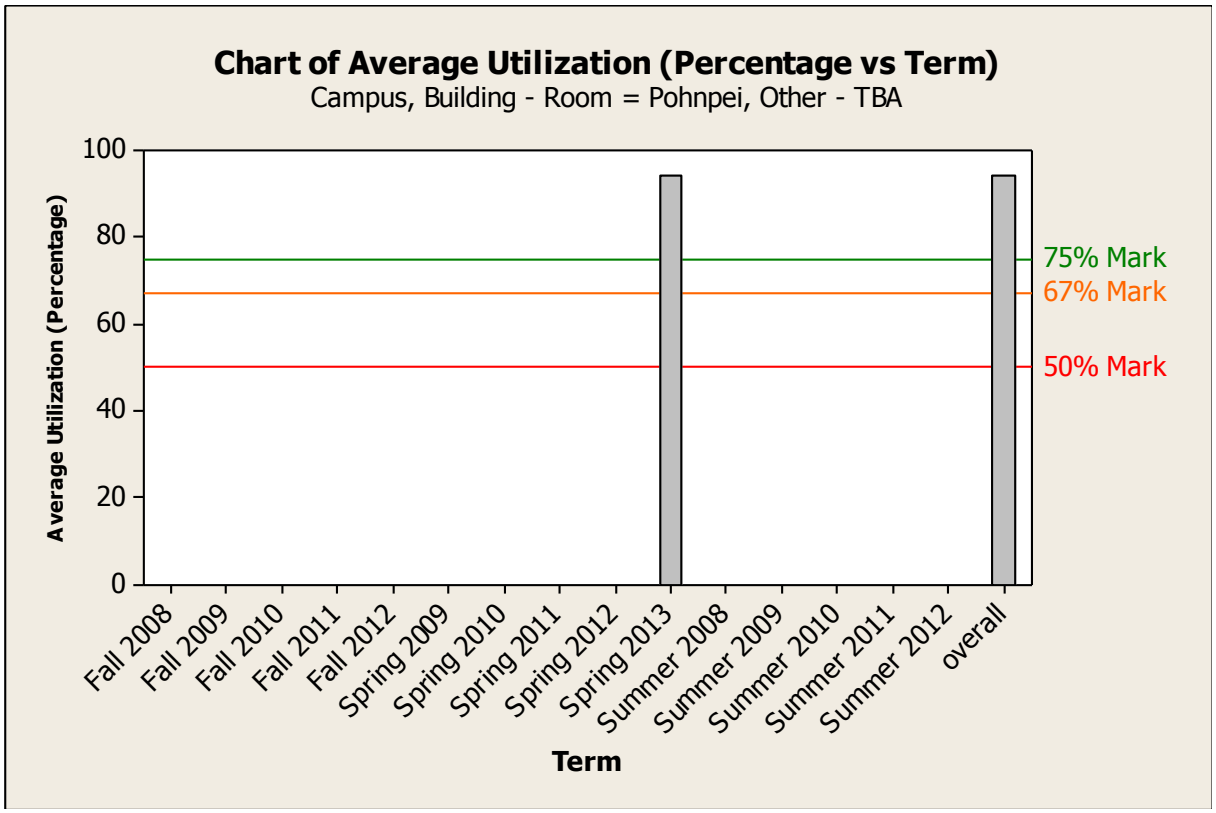
Instructional Building, Room 8



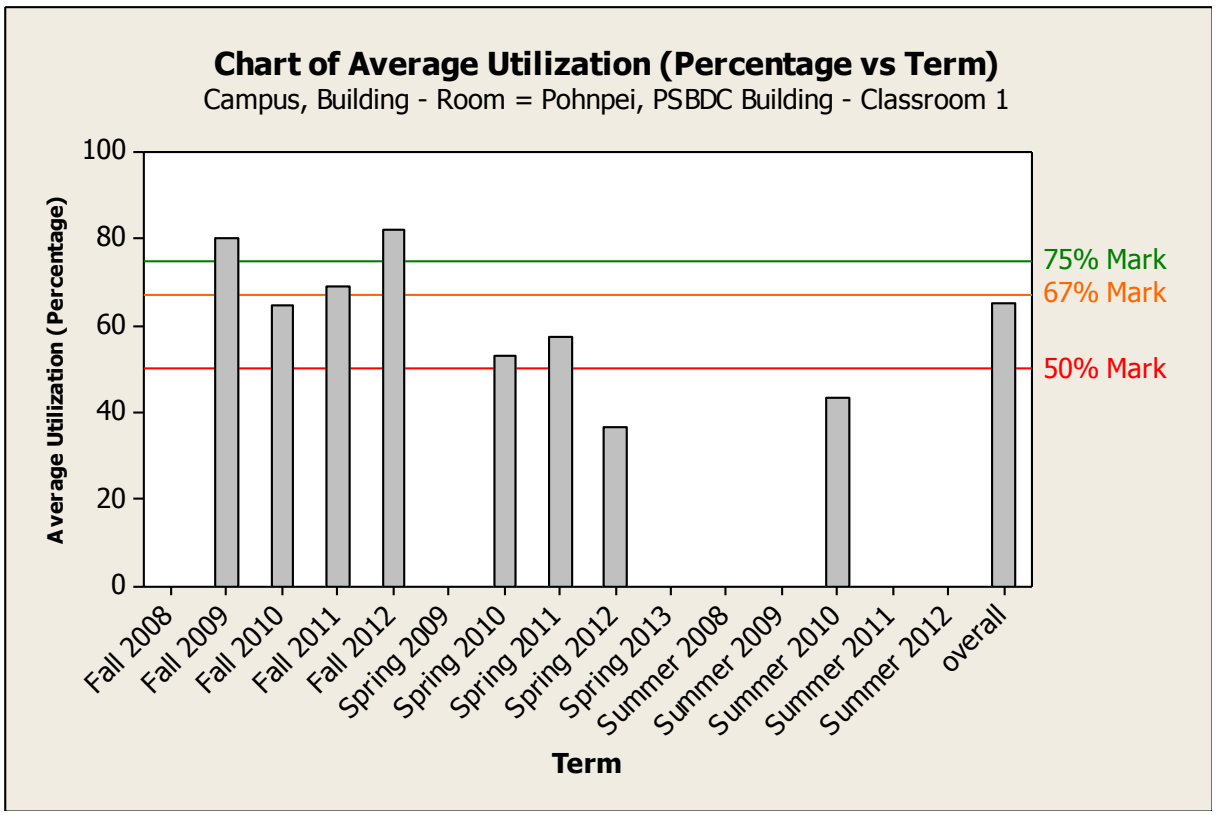
Instructional Building, Room 9



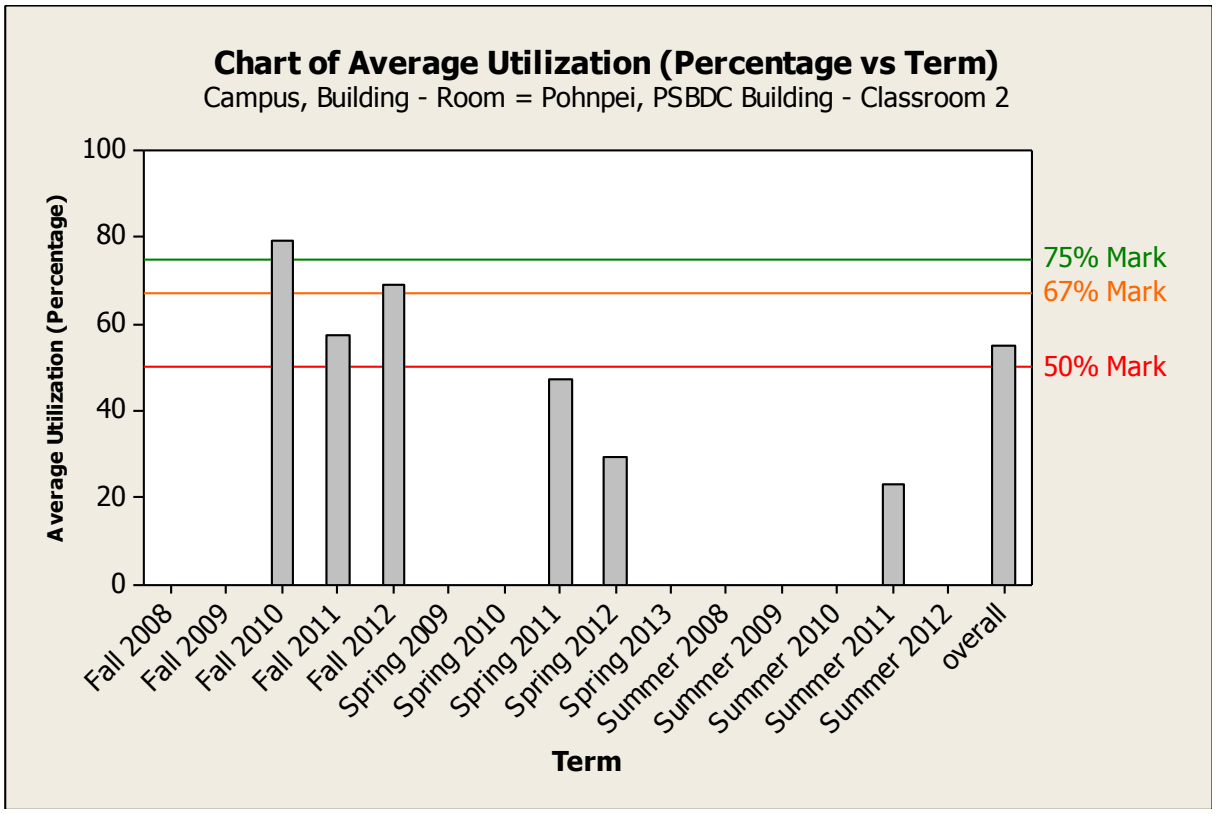
Other, TBA



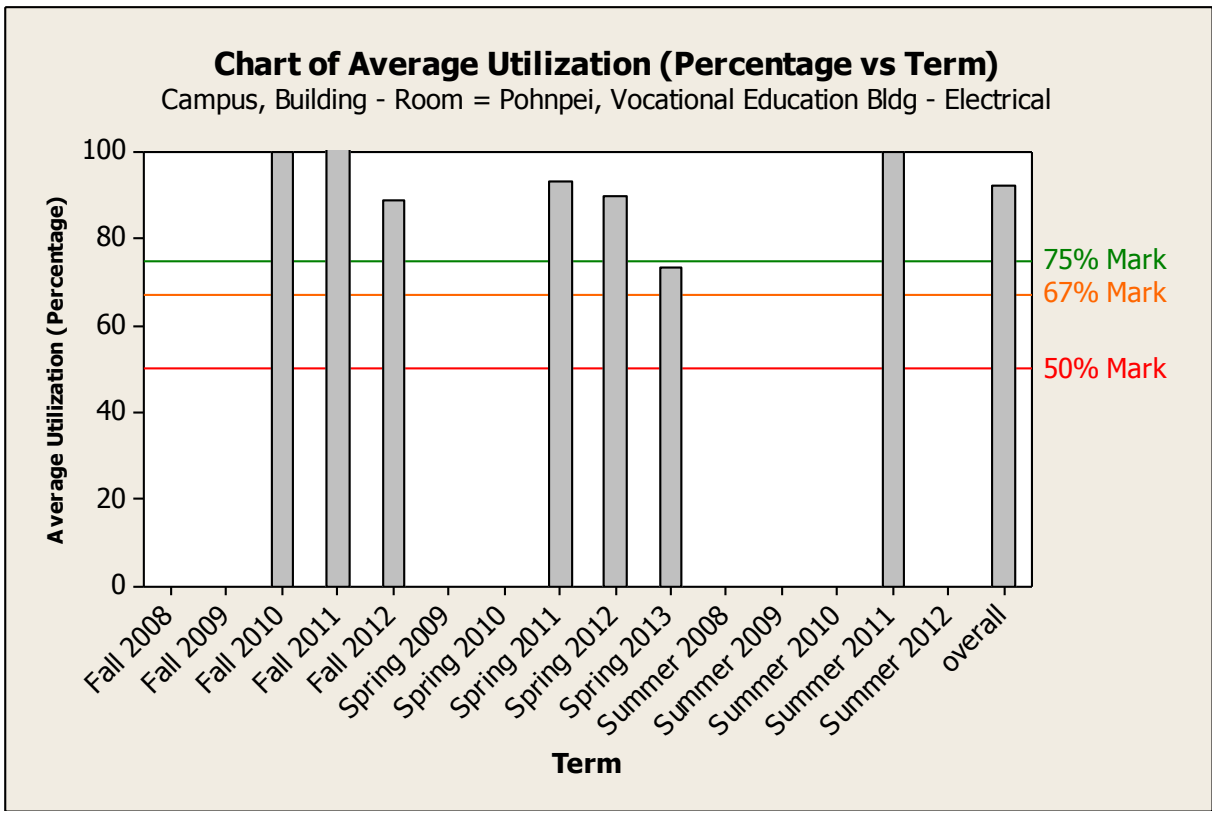
PSBDC Building Classroom 1



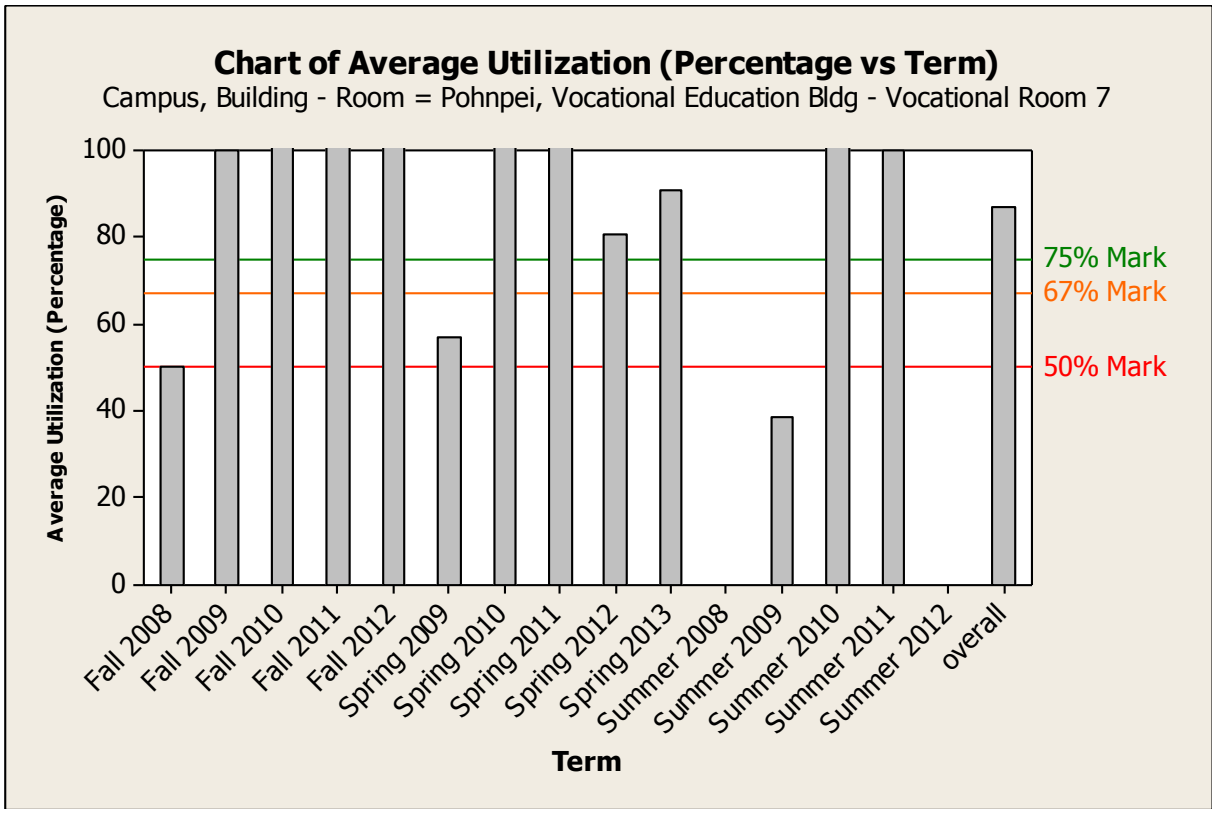
PSBDC Building Classroom 2



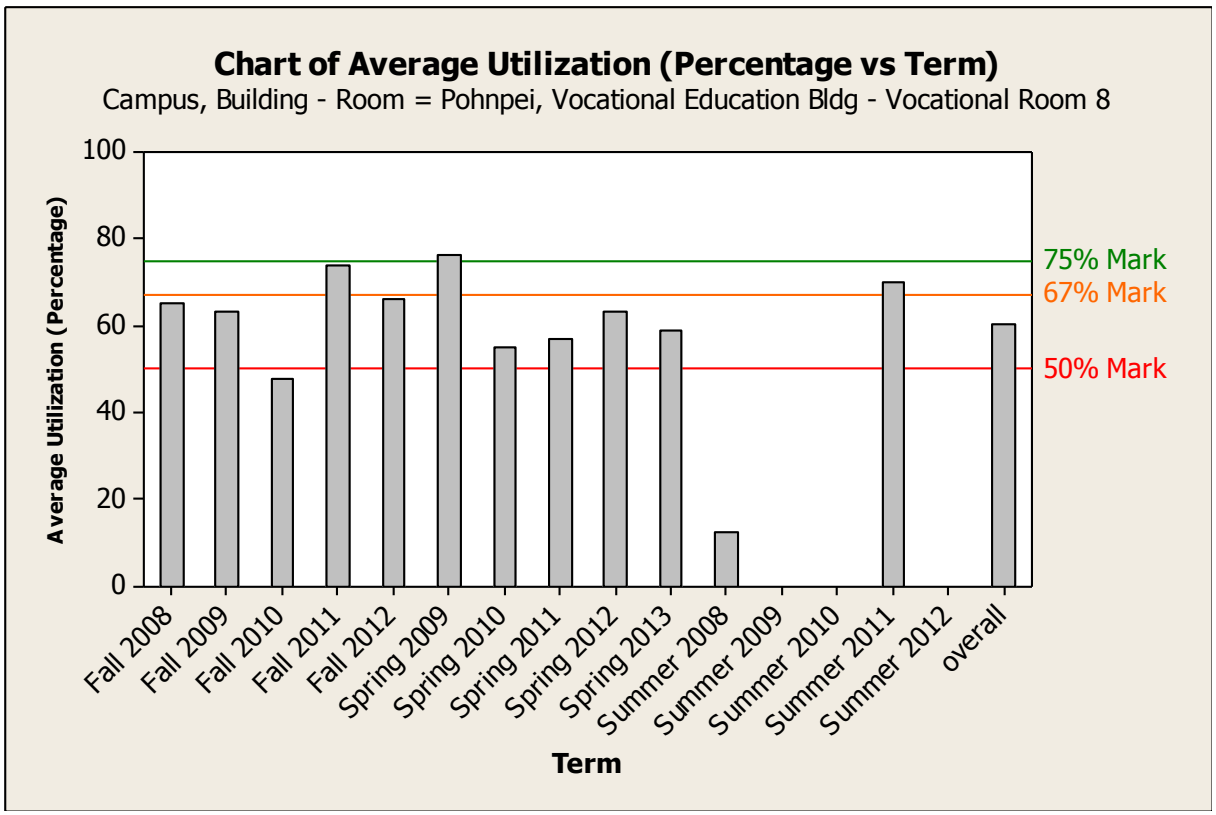
Vocational Education Bldg – Electrical



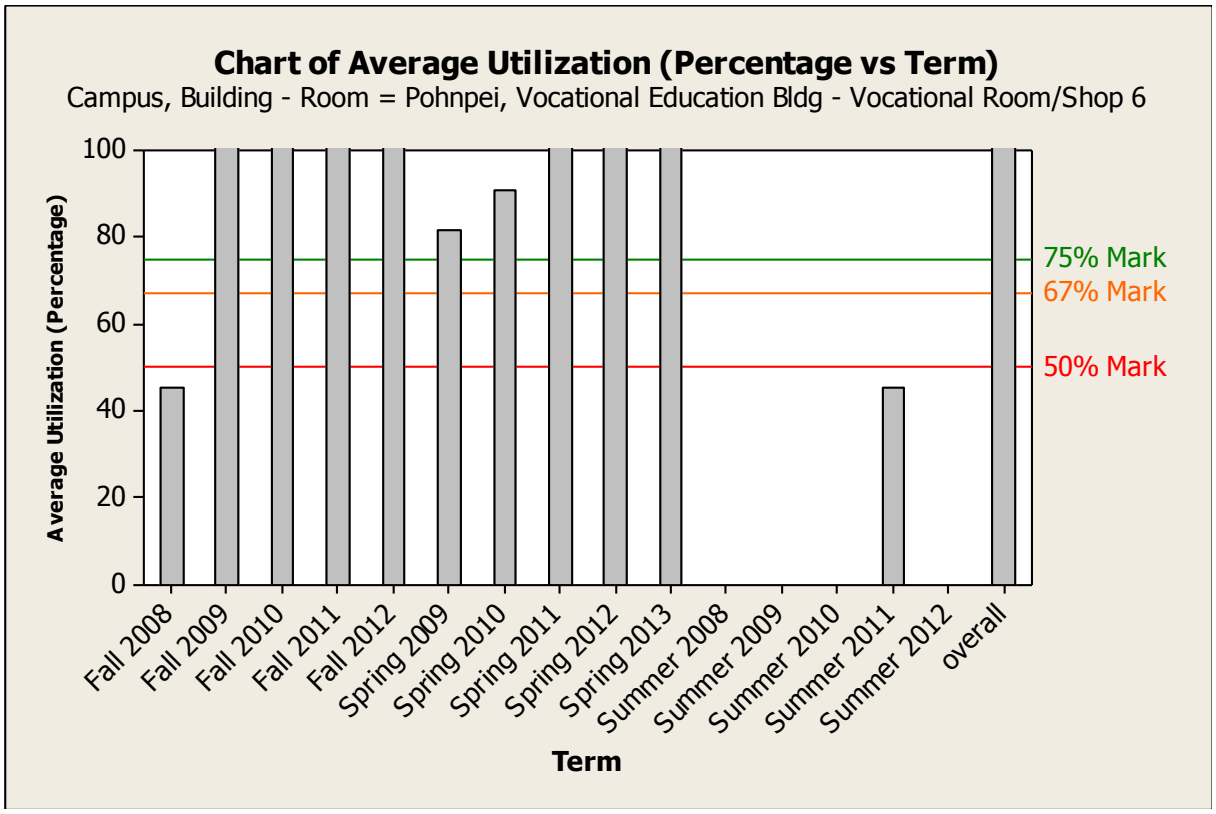
Vocational Education Bldg – Vocational Room 7



Vocational Education Bldg – Vocational Room 8



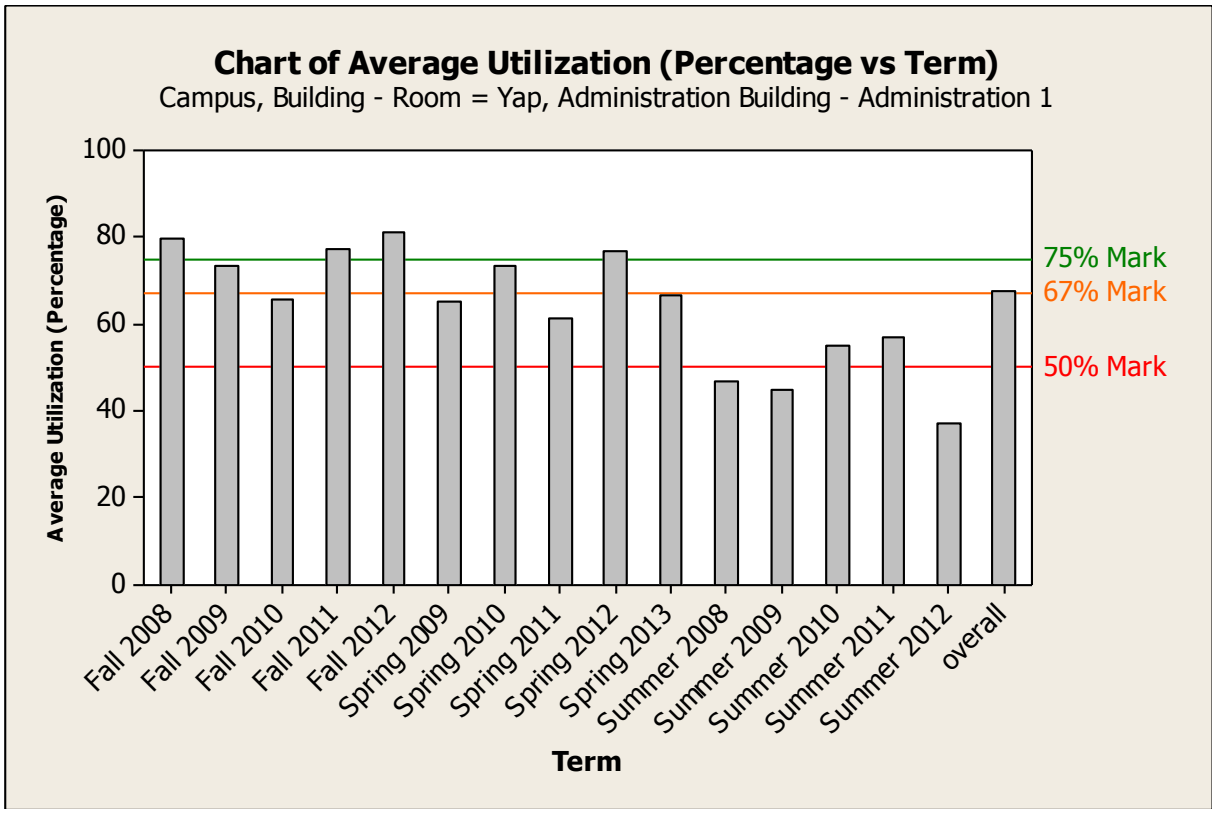
Vocational Education Bldg – Vocational Room/Shop 6



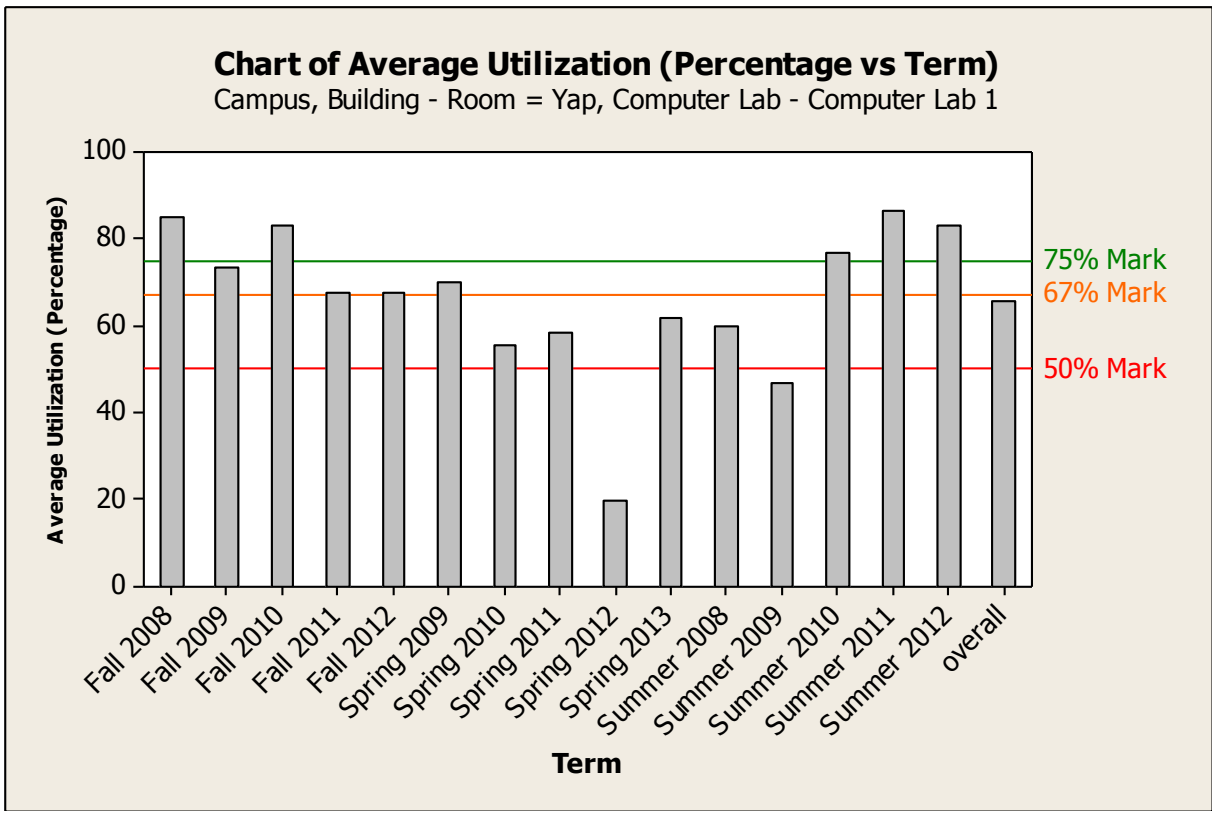
Yap – 8 rooms

NOTE: Some rooms had average capacities above 100%, but these have only been shown to be 100% of the graphs.

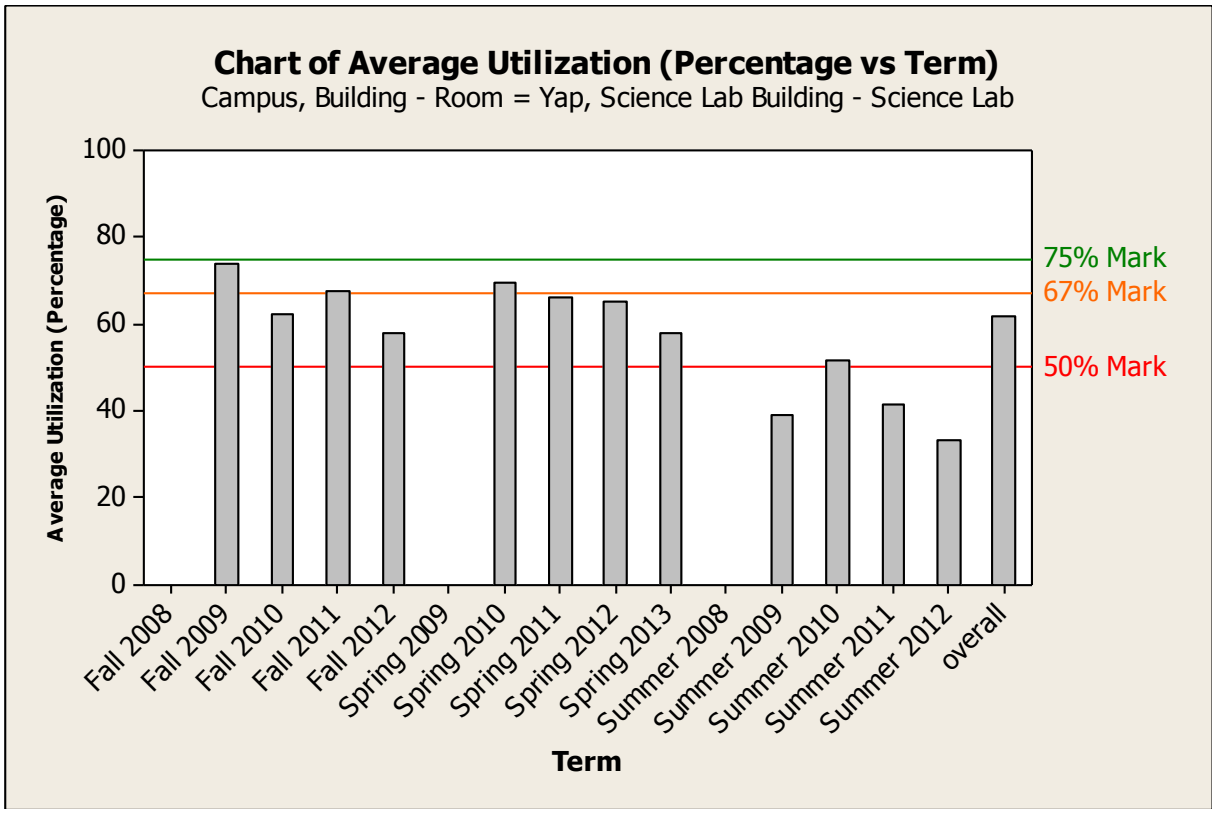
Administration 1



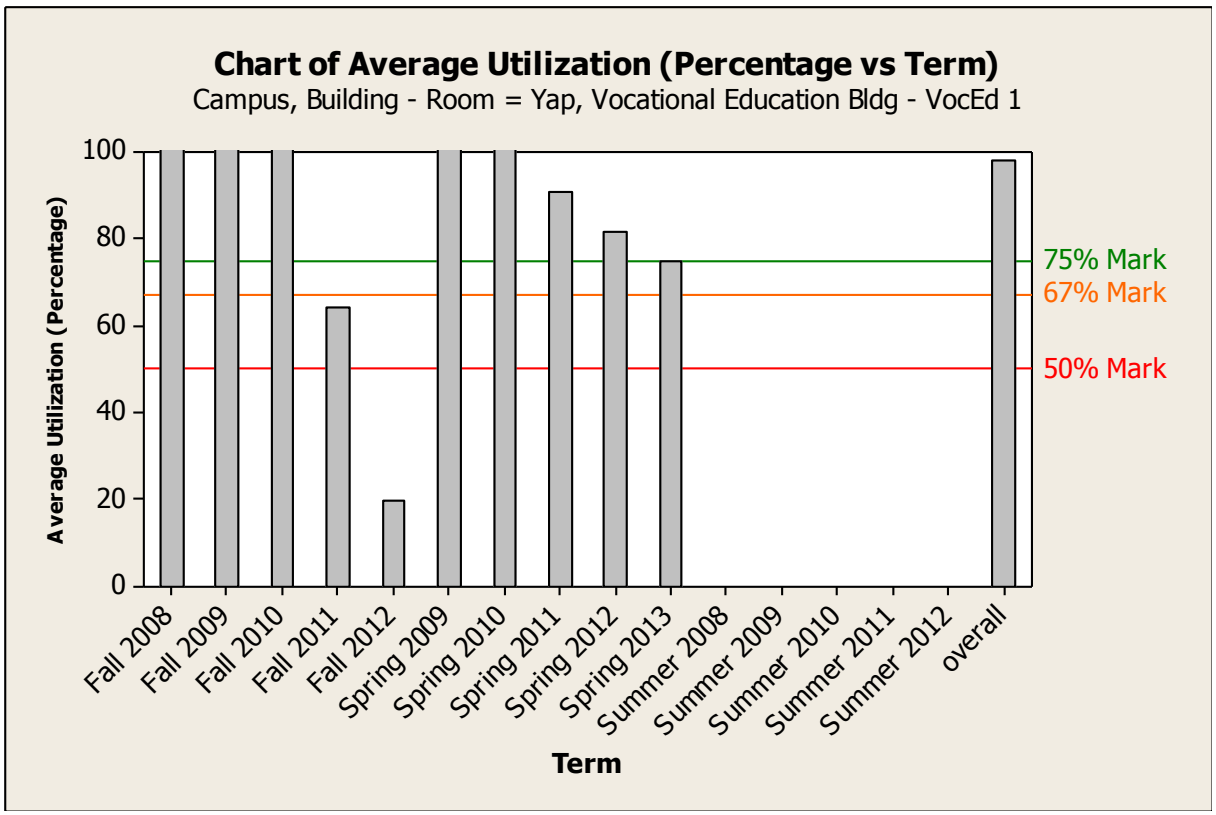
Computer Lab 1



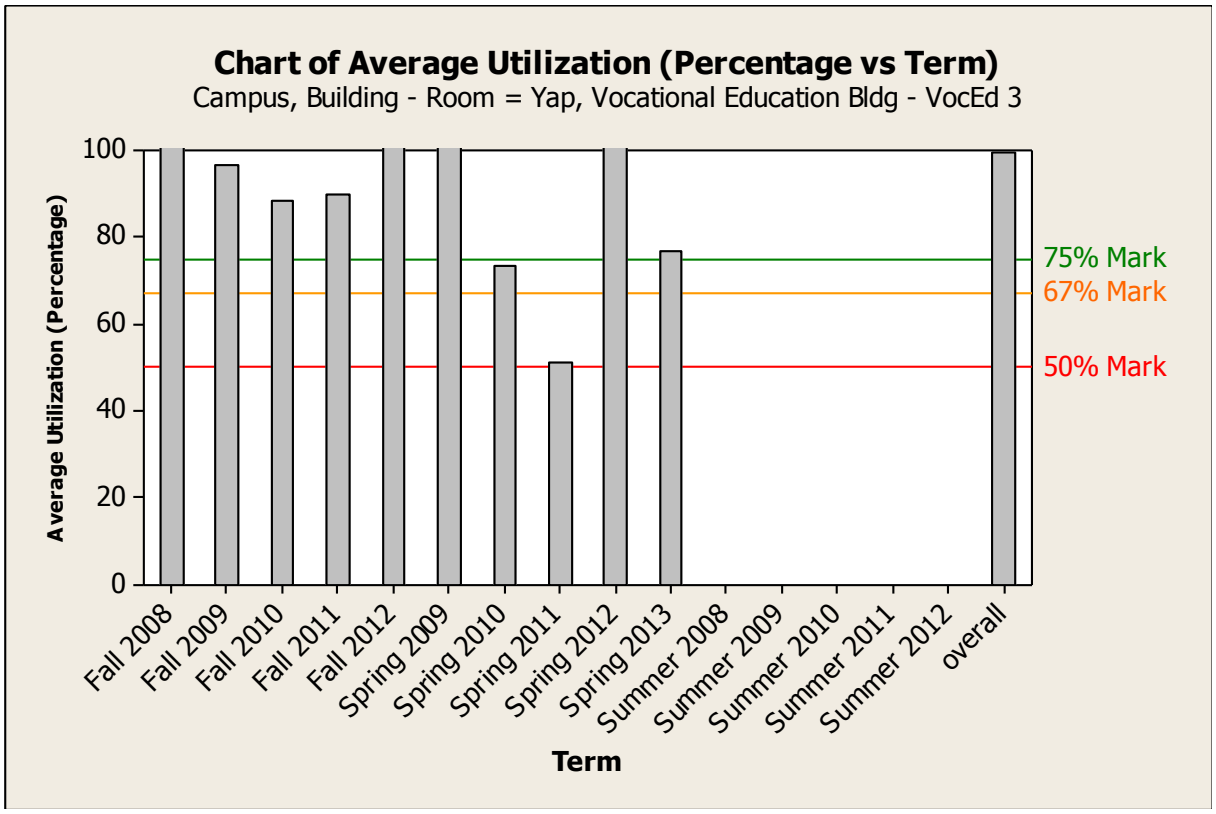
Science Lab



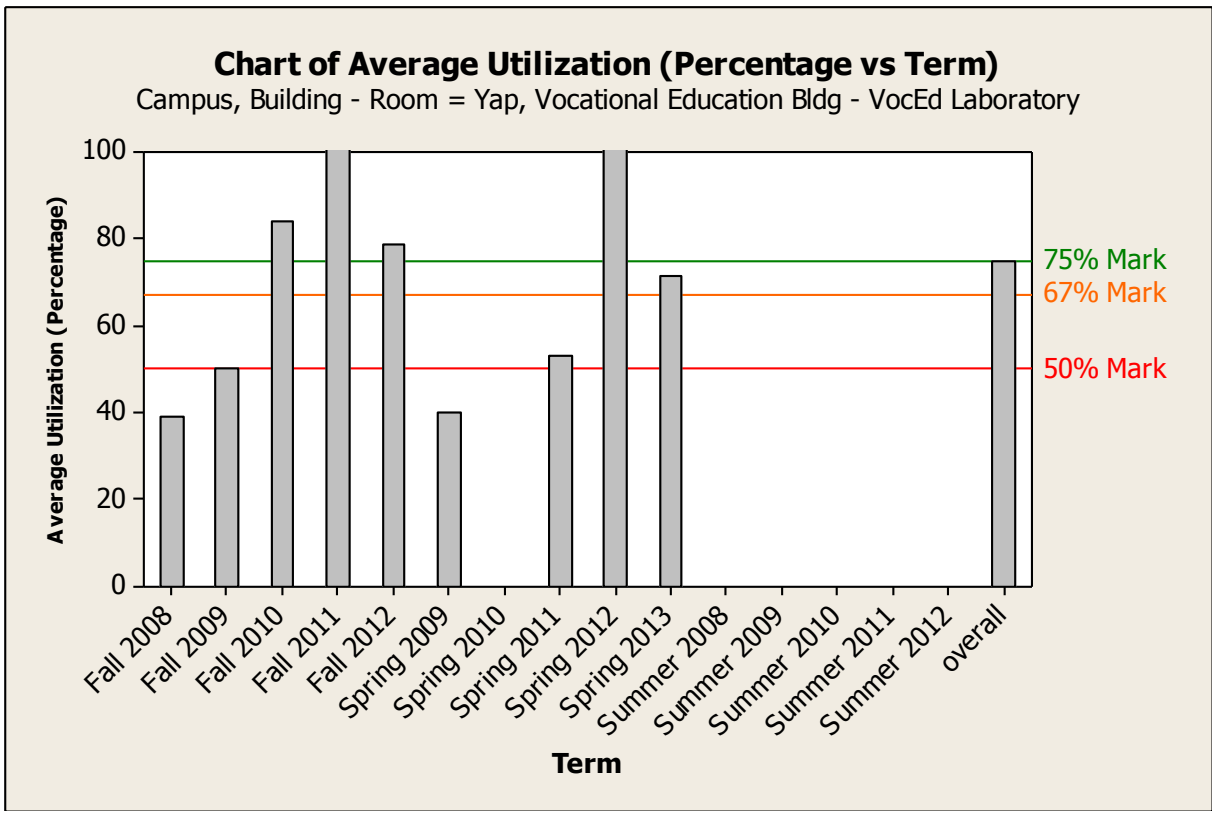
VocEd 1



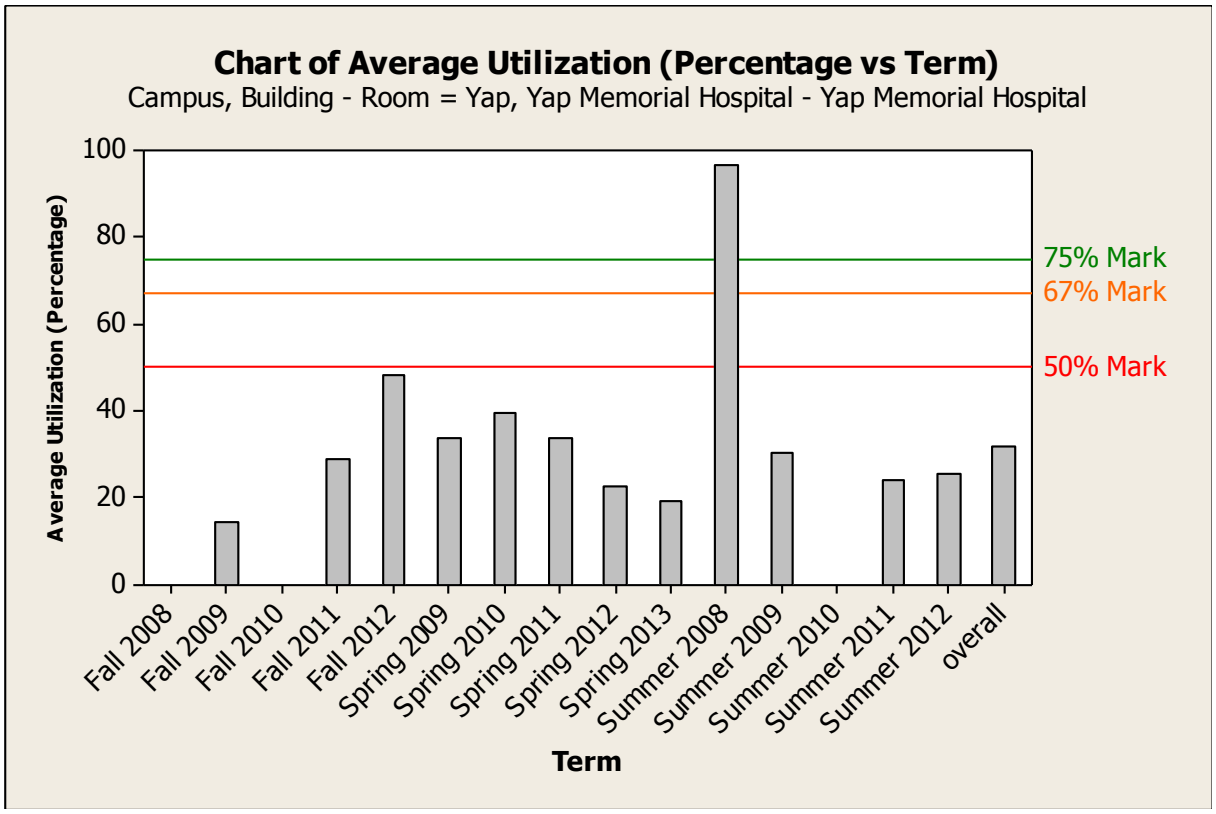
VocEd3



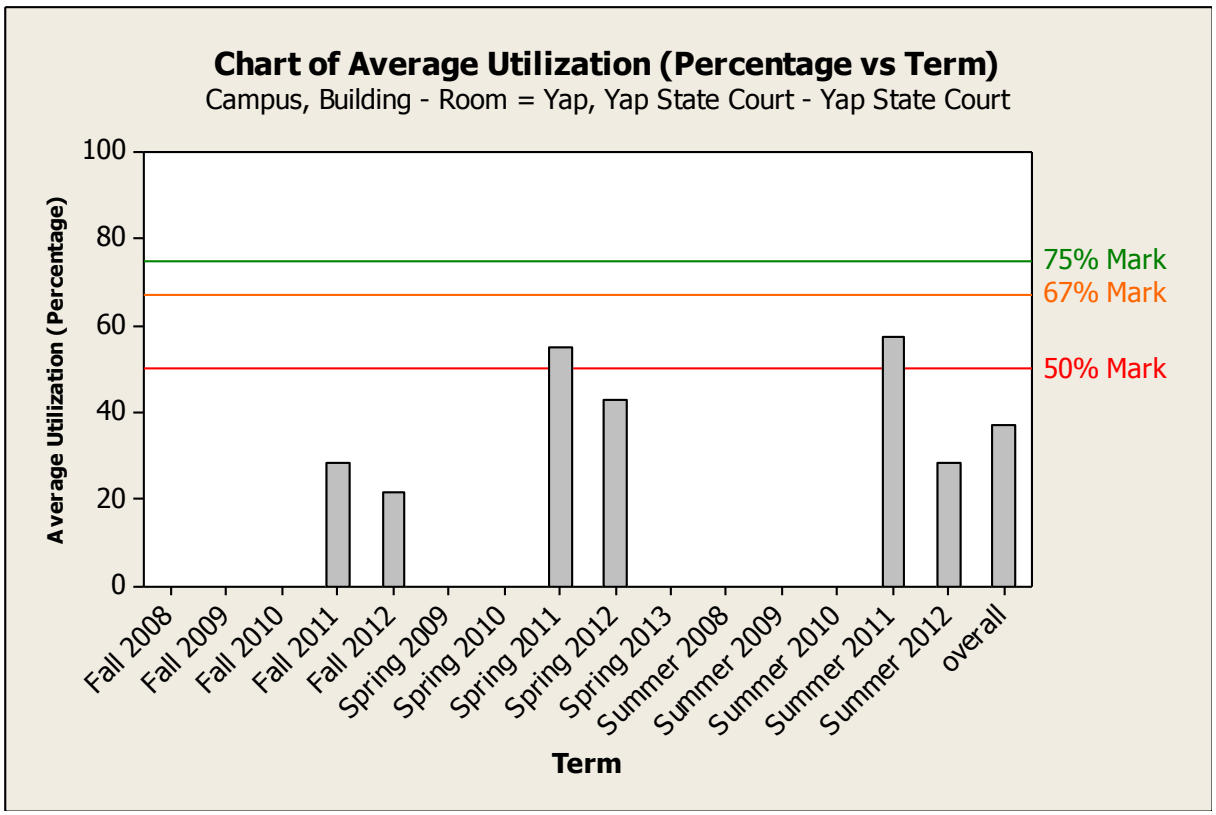
VocEd Laboratory



Yap Memorial Hospital



Yap State Court



Appendix D

Indicative Asset Renewal and Maintenance Cost Plan

Project: **COLLEGE OF MICRONESIA - FSM**

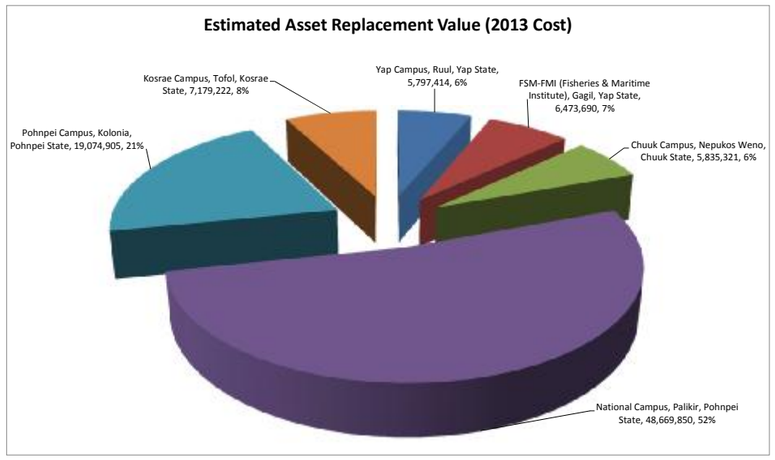
Document: **SUMMARY OF COST OF ASSET RENEWALS AND MAINTENANCE**

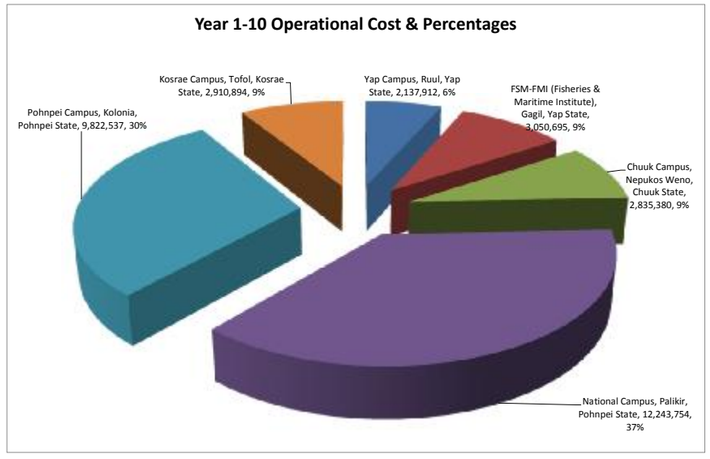
Date: June 2013

Revision: 3 - Draft Version Only

							Year 1 - 10 Asset Renewal Cost vs Full Replacement Cost		Year 11 - 20 Asset Renewal Cost vs Full Replacement Cost		Year 21 - 30 Asset Renewal Cost vs Full Replacement Cost				Operational Cost (Cost of Asset Renewal and Maintenance)					
		Building Area		Site Area		Estimated Full Replacement Cost	Year 1 - 10 Asset Renewal Cost ($ USD) Excluding Escalation	% of Full Replacement Cost	Year 11 - 20 Asset Renewal Cost ($ USD) Excluding Escalation	% of Full Replacement Cost	Year 21 - 30 Asset Renewal Cost ($ USD) Excluding Escalation	% of Full Replacement Cost	Total 30 Year Asset Renewal Cost ($ USD) Excluding Escalation	% of Full Replacement Cost	Annualised Asset Renewal Cost (Excluding Escalation)	Annualised Maintenance Cost (Excluding Escalation)	Annualised Total Operational Cost (Excluding Escalation)	Total Year 1-10 Operational Cost ($ USD) Excluding Escalation	Total Year 11-20 Operational Cost ($ USD) Excluding Escalation	Total Year 21-30 Operational Cost ($ USD) Excluding Escalation
Ref	**Campus**	**GFA (ft2)**	**GFA (m2)**	**Area (ft2)**	**Area (m2)**	**Cost ($ USD) Excluding Escalation**														
1.00	Yap Campus, Ruul, Yap State	23,213	2,157	304,923	28,328	**5,797,414**	**735,379**	13%	**1,151,982**	20%	**1,803,738**	31%	**3,691,099**	64%	123,037	45,130	**168,167**	**1,186,683**	**1,603,286**	**2,255,042**
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	22,374	2,079	1,570,317	145,886	**6,473,690**	**1,466,564**	23%	**2,092,668**	32%	**1,762,945**	27%	**5,322,178**	82%	177,406	44,942	**222,348**	**1,915,988**	**2,542,092**	**2,212,369**
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	21,371	1,985	90,407	8,399	**5,835,321**	**1,226,237**	21%	**1,385,016**	24%	**1,816,420**	31%	**4,427,673**	76%	147,589	47,673	**195,262**	**1,702,962**	**1,861,741**	**2,293,145**
4.00	National Campus, Palikir, Pohnpei State	124,691	11,584	3,177,382	295,186	**48,669,850**	**5,107,564**	10%	**8,929,380**	18%	**7,233,639**	15%	**21,270,583**	44%	709,019	207,427	**916,447**	**7,181,838**	**11,003,654**	**9,307,913**
5.00	Pohnpei Campus, Kolonia, Pohnpei State	70,087	6,511	730,617	67,876	**19,074,905**	**4,415,511**	23%	**3,873,233**	20%	**5,472,919**	29%	**13,761,664**	72%	458,722	151,580	**610,302**	**5,931,315**	**5,389,036**	**6,988,723**
6.00	Kosrae Campus, Tofol, Kosrae State	23,401	2,174	410,205	38,109	**7,179,222**	**1,060,048**	15%	**1,774,836**	25%	**2,255,503**	31%	**5,090,387**	71%	169,680	57,116	**226,796**	**1,631,210**	**2,345,998**	**2,826,665**
	TOTALS EXCLUDING ESCALATION	**285,138**	**26,490**	**6,283,851**	**583,784**	**93,030,402**	**14,011,305**	**15%**	**19,207,114**	**21%**	**20,345,165**	**22%**	**53,563,584**	**58%**	**1,785,453**	**553,869**	**2,339,322**	**19,549,997**	**24,745,807**	**25,883,857**

							Operational Cost (Cost of Asset Renewal and Maintenance)					
Ref	**Campus**	**Year 1 - 10 Asset Renewal Cost ($ USD) Including Escalation**	**Year 11 - 20 Asset Renewal Cost ($ USD) Including Escalation**	**Year 21 - 30 Asset Renewal Cost ($ USD) Including Escalation**	**Total 30 Year Asset Renewal Cost ($ USD) Including Escalation**	Annualised Asset Renewal Cost (Including Escalation)	Annualised Maintenance Cost (Including Escalation)	**Annualised Total Operational Cost (Including Escalation)**	**Total Year 1-10 Operational Cost ($USD) Including Escalation**	**Total Year 11-20 Operational Cost ($USD) Including Escalation**	**Total Year 21-30 Oerational Cost ($USD) Including Escalation**
1.00	Yap Campus, Ruul, Yap State	**896,706**	**1,960,275**	**4,281,228**	**7,138,210**	237,940	124,121	**362,061**	**2,137,912**	**3,201,481**	**5,522,434**
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	**1,814,659**	**3,604,267**	**4,107,705**	**9,526,631**	317,554	123,604	**441,158**	**3,050,695**	**4,840,302**	**5,343,741**
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	**1,524,259**	**2,383,132**	**4,280,518**	**8,187,909**	272,930	131,112	**404,042**	**2,835,380**	**3,694,252**	**5,591,638**
4.00	National Campus, Palikir, Pohnpei State	**6,538,952**	**15,170,425**	**16,666,453**	**38,375,831**	1,279,194	570,480	**1,849,675**	**12,243,754**	**20,875,228**	**22,371,255**
5.00	Pohnpei Campus, Kolonia, Pohnpei State	**5,653,676**	**6,472,258**	**12,546,823**	**24,672,757**	822,425	416,886	**1,239,311**	**9,822,537**	**10,641,118**	**16,715,684**
6.00	Kosrae Campus, Tofol, Kosrae State	**1,340,047**	**2,986,151**	**5,352,679**	**9,678,877**	322,629	157,085	**479,714**	**2,910,894**	**4,556,998**	**6,923,526**
	TOTALS INCLUDING ESCALATION	**17,768,300**	**32,576,507**	**47,235,407**	**97,580,214**	**3,252,674**	**1,523,287**	**4,775,961**	**33,001,171**	**47,809,378**	**62,468,278**





Project: **COLLEGE OF MICRONESIA - FSM**

Document: **SUMMARY OF BUILDING ELEMENT ASSET RENEWAL COSTS (BY CAMPUS)**

Audit Date: June 2013

Revision: 3 - Draft Version Only

Ref	Building	Cost Period	Sub-Structure	Frame	Structural Walls	Upper Floors	Roof	External Walls & Finishes	Windows & Doors	Structure	Stairs Balus. & Handrails	Internal Walls & Partitions	Internal Doors	Floor Finishes	Wall Finishes	Ceiling Finishes	Fixed Joinery Units	Internal Fit-Out	Sanitary Plumbing	Mech. Services	Fire Services	Electrical Services	Vertical Transport	Special Services	Building Services	Building
1.00	Yap Campus, Ruul, Yap State	Year 1 - 10 Asset Renewal Cost ($ USD)	75,110	94,875	0	0	96,872	91,382	46,516	**404,755**	0	0	0	54,843	15,097	0	8,640	**78,580**	2,277	179,946	12,627	0	0	21,775	**216,625**	**699,959**
		Year 11 - 20 Asset Renewal Cost ($ USD)	0	0	0	0	75,608	17,979	4,703	**98,290**	3,036	0	9,108	99,643	161,133	48,619	52,040	**373,578**	26,565	244,588	22,414	172,992	0	31,484	**498,043**	**969,912**
		Year 21 - 30 Asset Renewal Cost ($ USD)	44,134	0	23,920	50,600	266,180	27,541	126,095	**538,470**	27,514	0	23,023	128,411	51,926	247,182	104,810	**582,866**	140,289	245,094	11,545	0	0	21,775	**418,702**	**1,540,038**
		Total ($ USD)	**119,244**	**94,875**	**23,920**	**50,600**	**438,660**	**136,902**	**177,313**	**1,041,515**	**30,550**	**0**	**32,131**	**282,897**	**228,155**	**295,801**	**165,490**	**1,035,024**	**169,131**	**669,628**	**46,586**	**172,992**	**0**	**75,033**	**1,133,370**	**3,209,909**
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	Year 1 - 10 Asset Renewal Cost ($ USD)	0	0	49,386	0	428,131	8,197	0	**485,714**	0	0	0	202,386	106,120	0	48,450	**356,956**	115,748	169,510	36,366	0	0	92,660	**414,284**	**1,256,954**
		Year 11 - 20 Asset Renewal Cost ($ USD)	0	0	0	0	16,666	0	103,087	**119,754**	0	0	3,036	0	120,972	107,737	219,478	**451,222**	20,556	106,260	6,189	468,476	0	0	**601,481**	**1,172,457**
		Year 21 - 30 Asset Renewal Cost ($ USD)	0	12,150	0	0	360,022	34,286	478,613	**885,070**	0	0	107,778	164,227	50,151	66,927	7,084	**396,167**	11,259	160,655	36,366	22,770	0	92,660	**323,710**	**1,604,947**
		Total ($ USD)	**0**	**12,150**	**49,386**	**0**	**804,820**	**42,483**	**581,700**	**1,490,538**	**0**	**0**	**110,814**	**366,613**	**277,242**	**174,664**	**275,011**	**1,204,345**	**147,562**	**436,425**	**78,922**	**491,246**	**0**	**185,319**	**1,339,474**	**4,034,357**
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	Year 1 - 10 Asset Renewal Cost ($ USD)	0	12,650	61,763	0	166,477	33,906	26,945	**301,740**	0	0	0	143,764	145,408	31,888	0	**321,060**	12,018	213,406	18,975	36,294	0	48,177	**328,869**	**951,669**
		Year 11 - 20 Asset Renewal Cost ($ USD)	0	0	21,233	0	298,747	47,888	48,804	**416,672**	0	0	0	22,012	83,051	137,522	10,737	**253,322**	68,943	202,147	18,975	287,419	0	24,258	**601,741**	**1,271,735**
		Year 21 - 30 Asset Renewal Cost ($ USD)	48,699	27,618	40,020	0	135,875	53,358	264,569	**570,138**	0	0	61,896	161,282	221,390	101,179	36,466	**582,213**	20,620	173,558	9,488	122,039	0	48,177	**373,882**	**1,526,233**
		Total ($ USD)	**48,699**	**40,268**	**123,015**	**0**	**601,099**	**135,152**	**340,317**	**1,288,550**	**0**	**0**	**61,896**	**327,058**	**449,849**	**270,588**	**47,203**	**1,156,595**	**101,580**	**589,111**	**47,438**	**445,752**	**0**	**120,612**	**1,304,492**	**3,749,637**
4.00	National Campus, Palikir, Pohnpei State	Year 1 - 10 Asset Renewal Cost ($ USD)	0	0	4,910	0	688,329	30,622	620,198	**1,344,058**	0	2,000	1,500	796,625	753,844	129,040	27,526	**1,710,535**	8,190	893,506	158,455	11,620	0	221,776	**1,293,547**	**4,348,140**
		Year 11 - 20 Asset Renewal Cost ($ USD)	500	303,337	0	0	995,108	429,189	88,502	**1,816,636**	0	0	45,540	265,989	724,378	1,214,576	353,175	**2,603,659**	436,678	1,214,355	103,711	1,699,331	63,250	374,240	**3,891,565**	**8,311,860**
		Year 21 - 30 Asset Renewal Cost ($ USD)	0	0	0	0	382,406	248,004	252,179	**882,589**	264,853	0	186,107	523,383	488,214	110,831	141,003	**1,714,390**	287,282	934,320	146,121	354,592	0	213,987	**1,936,303**	**4,533,282**
		Total ($ USD)	**500**	**303,337**	**4,910**	**0**	**2,065,843**	**707,814**	**960,879**	**4,043,283**	**264,853**	**2,000**	**233,147**	**1,585,997**	**1,966,436**	**1,454,447**	**521,705**	**6,028,585**	**732,150**	**3,042,181**	**408,287**	**2,065,543**	**63,250**	**810,002**	**7,121,414**	**17,193,281**
5.00	Pohnpei Campus, Kolonia, Pohnpei State	Year 1 - 10 Asset Renewal Cost ($ USD)	94,049	672,973	751,600	364,487	464,846	57,868	53,029	**2,458,853**	0	0	1,645	331,938	645,710	209,401	35,496	**1,224,190**	54,648	537,941	19,790	4,428	0	79,812	**696,619**	**4,379,662**
		Year 11 - 20 Asset Renewal Cost ($ USD)	1,423	197,639	0	0	330,345	91,594	332,671	**953,672**	20,000	0	34,914	133,116	354,763	262,317	42,220	**847,329**	81,846	724,086	87,575	710,909	0	212,258	**1,816,673**	**3,617,674**
		Year 21 - 30 Asset Renewal Cost ($ USD)	202,986	516,099	47,948	12,176	399,380	392,775	165,272	**1,736,635**	44,946	0	42,188	466,590	328,773	312,403	338,539	**1,533,440**	195,379	473,426	16,627	633,542	0	79,812	**1,398,786**	**4,668,861**
		Total ($ USD)	**298,459**	**1,386,711**	**799,548**	**376,663**	**1,194,571**	**542,236**	**550,972**	**5,149,160**	**64,946**	**0**	**78,746**	**931,644**	**1,329,246**	**784,122**	**416,255**	**3,604,958**	**331,873**	**1,735,454**	**123,992**	**1,348,878**	**0**	**371,882**	**3,912,078**	**12,666,197**
6.00	Kosrae Campus, Tofol, Kosrae State	Year 1 - 10 Asset Renewal Cost ($ USD)	33,990	0	16,149	0	110,602	0	17,481	**178,222**	0	0	10,626	126,695	103,700	103,351	33,206	**377,578**	13,915	199,997	23,403	0	0	66,477	**303,791**	**859,591**
		Year 11 - 20 Asset Renewal Cost ($ USD)	0	0	0	0	351,720	145,319	21,222	**518,261**	29,882	0	4,554	48,656	121,673	109,547	8,030	**322,341**	24,812	300,374	28,932	184,186	0	68,667	**606,970**	**1,447,571**
		Year 21 - 30 Asset Renewal Cost ($ USD)	80,784	101,181	207,400	0	97,988	113,934	162,550	**763,837**	2,220	10,170	12,144	144,815	128,334	96,718	142,114	**536,515**	105,944	195,569	11,701	224,136	0	66,477	**603,827**	**1,904,180**
		Total ($ USD)	**114,774**	**101,181**	**223,549**	**0**	**560,309**	**259,252**	**201,254**	**1,460,320**	**32,102**	**10,170**	**27,324**	**320,167**	**353,707**	**309,616**	**183,350**	**1,236,435**	**144,670**	**695,940**	**64,035**	**408,321**	**0**	**201,621**	**1,514,588**	**4,211,343**
		Total - Year 1 - 10 Asset Renewal Cost ($ USD)	**203,149**	**780,498**	**883,808**	**364,487**	**1,955,258**	**221,974**	**764,168**	**5,173,343**	**0**	**2,000**	**13,771**	**1,656,252**	**1,769,878**	**473,680**	**153,318**	**4,068,898**	**206,795**	**2,194,305**	**269,615**	**52,341**	**0**	**530,677**	**3,253,734**	**12,495,975**
		Total - Year 11 - 20 Asset Renewal Cost ($ USD)	**1,923**	**500,977**	**21,233**	**0**	**2,068,194**	**731,968**	**598,988**	**3,923,283**	**52,918**	**0**	**97,152**	**569,415**	**1,565,970**	**1,880,317**	**685,679**	**4,851,452**	**659,399**	**2,791,810**	**267,796**	**3,523,312**	**63,250**	**710,906**	**8,016,473**	**16,791,208**
		Total - Year 21 - 30 Asset Renewal Cost ($ USD)	**376,603**	**657,048**	**319,287**	**62,776**	**1,641,851**	**869,897**	**1,449,277**	**5,376,740**	**339,533**	**10,170**	**433,136**	**1,588,707**	**1,268,788**	**935,241**	**770,017**	**5,345,591**	**760,771**	**2,182,622**	**231,849**	**1,357,079**	**0**	**522,888**	**5,055,210**	**15,777,540**
		Grand Total ($ USD)	**581,676**	**1,938,523**	**1,224,328**	**427,263**	**5,665,303**	**1,823,839**	**2,812,434**	**14,473,366**	**392,450**	**12,170**	**544,059**	**3,814,375**	**4,604,635**	**3,289,238**	**1,609,014**	**14,265,941**	**1,626,965**	**7,168,738**	**769,260**	**4,932,732**	**63,250**	**1,764,471**	**16,325,416**	**45,064,723**

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **SUMMARY OF SITE INFRASTRUCTURE ASSET RENEWAL COSTS (BY CAMPUS)**

Audit Date: June 2013

Revision: 3 - Draft Version Only

Ref	Building	Cost Period	Roading	Car Parks	Foot Paths & Circulation Areas	Fences & Gates	Structures	Retaining Walls	Site Drainage	Electrical Infrastructure	Water Services	Site Furniture	Total
1.00	Yap Campus, Ruul, Yap State	Year 1 - 10 Asset Renewal Cost ($ USD)	2,530	1,265	0	0	0	0	18,975	0	12,650	0	**35,420**
		Year 11 - 20 Asset Renewal Cost ($ USD)	8,892	23,908	0	0	0	0	12,650	130,295	0	6,325	**182,070**
		Year 21 - 30 Asset Renewal Cost ($ USD)	1,265	4,375	0	0	44,275	0	117,645	0	96,140	0	**263,700**
		Total ($ USD)	**12,687**	**29,548**	**0**	**0**	**44,275**	**0**	**149,270**	**130,295**	**108,790**	**6,325**	**481,190**
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	Year 1 - 10 Asset Renewal Cost ($ USD)	3,036	3,036	0	10,626	170,775	0	18,975	0	3,163	0	**209,611**
		Year 11 - 20 Asset Renewal Cost ($ USD)	3,036	3,036	0	0	398,020	0	12,650	490,820	0	12,650	**920,212**
		Year 21 - 30 Asset Renewal Cost ($ USD)	1,518	1,518	0	0	0	0	93,610	0	61,353	0	**157,999**
		Total ($ USD)	**7,590**	**7,590**	**0**	**10,626**	**568,795**	**0**	**125,235**	**490,820**	**64,515**	**12,650**	**1,287,821**
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	Year 1 - 10 Asset Renewal Cost ($ USD)	2,593	0	0	0	0	0	0	253,000	18,975	0	**274,568**
		Year 11 - 20 Asset Renewal Cost ($ USD)	2,593	0	0	0	0	0	0	110,688	0	0	**113,281**
		Year 21 - 30 Asset Renewal Cost ($ USD)	1,297	0	51,713	27,415	70,929	0	81,909	0	56,925	0	**290,187**
		Total ($ USD)	**6,483**	**0**	**51,713**	**27,415**	**70,929**	**0**	**81,909**	**363,688**	**75,900**	**0**	**678,036**
4.00	National Campus, Palikir, Pohnpei State	Year 1 - 10 Asset Renewal Cost ($ USD)	5,793	0	581	1,518	475,762	0	189,750	74,003	0	12,018	**759,424**
		Year 11 - 20 Asset Renewal Cost ($ USD)	342,557	134,994	10,054	0	0	0	0	126,500	0	3,416	**617,520**
		Year 21 - 30 Asset Renewal Cost ($ USD)	2,897	318,517	22,704	0	518,618	13,460	262,772	1,437,040	8,223	116,127	**2,700,357**
		Total ($ USD)	**351,246**	**453,511**	**33,339**	**1,518**	**994,380**	**13,460**	**452,522**	**1,637,543**	**8,223**	**131,560**	**4,077,302**
5.00	Pohnpei Campus, Kolonia, Pohnpei State	Year 1 - 10 Asset Renewal Cost ($ USD)	14,550	10,453	3,256	0	0	0	6,325	0	0	1,265	**35,850**
		Year 11 - 20 Asset Renewal Cost ($ USD)	14,550	7,566	3,256	1,518	58,336	0	6,325	161,288	0	2,720	**255,559**
		Year 21 - 30 Asset Renewal Cost ($ USD)	7,275	24,795	147,093	80,541	256,338	166,802	78,648	15,180	6,325	21,062	**804,058**
		Total ($ USD)	**36,376**	**42,814**	**153,605**	**82,059**	**314,674**	**166,802**	**91,298**	**176,468**	**6,325**	**25,047**	**1,095,467**
6.00	Kosrae Campus, Tofol, Kosrae State	Year 1 - 10 Asset Renewal Cost ($ USD)	8,631	5,665	0	0	129,237	0	0	56,925	0	0	**200,457**
		Year 11 - 20 Asset Renewal Cost ($ USD)	8,631	5,665	0	0	298,738	0	4,744	0	9,488	0	**327,264**
		Year 21 - 30 Asset Renewal Cost ($ USD)	4,315	2,832	0	4,918	43,709	15,983	141,174	117,013	0	21,379	**351,323**
		Total ($ USD)	**21,577**	**14,161**	**0**	**4,918**	**471,683**	**15,983**	**145,918**	**173,938**	**9,488**	**21,379**	**879,045**
		Total - Year 1 - 10 Asset Renewal Cost ($ USD)	**37,134**	**20,419**	**3,837**	**12,144**	**775,774**	**0**	**234,025**	**383,928**	**34,788**	**13,283**	**1,515,330**
		Total - Year 11 - 20 Asset Renewal Cost ($ USD)	**380,260**	**175,169**	**13,310**	**1,518**	**755,093**	**0**	**36,369**	**1,019,590**	**9,488**	**25,110**	**2,415,906**
		Total - Year 21 - 30 Asset Renewal Cost ($ USD)	**18,567**	**352,037**	**221,510**	**112,874**	**933,868**	**196,245**	**775,758**	**1,569,233**	**228,965**	**158,568**	**4,567,624**
		Grand Total ($ USD)	**435,960**	**547,624**	**238,658**	**126,536**	**2,464,735**	**196,245**	**1,046,152**	**2,972,750**	**273,240**	**196,961**	**8,498,861**

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **SUMMARY OF BUILDING & ELEMENT CONDITION GRADES**

Audit Date: June 2013

Revision: 3 - Draft Version Only

Ref	Campus	Building	Sub-Structure	Frame	Structural Walls	Upper Floors	Roof	External Walls & Finishes	Windows & Doors	Structure	Stairs Balus. & Handrails	Internal Walls & Partitions	Internal Doors	Floor Finishes	Wall Finishes	Ceiling Finishes	Fixed Joinery Units	Internal Fit-Out	Sanitary Plumbing	Mech. Services	Fire Services	Electrical Services	Vertical Transport	Special Services	Building Services	Building
1.00	Yap Campus, Ruul, Yap State	A - Administration Building	5	3	3	0	3	5	3	**4**	3	2	2	4	2	2	3	**3**	2	3	3	3	0	3	**3**	**3**
		B - Computer Lab	3	1	3	0	1	3	3	**3**	4	3	3	3	3	3	3	**3**	0	3	0	3	0	3	**3**	**3**
		C - Land Grant Research Lab	3	3	3	0	5	4	3	**4**	3	0	3	3	3	3	3	**3**	3	3	4	3	0	3	**4**	**4**
		D - Science Laboratory	1	1	1	0	1	1	2	**2**	1	1	1	1	1	1	1	**1**	1	1	1	1	0	1	**1**	**2**
		E - Student Centre (New)	1	1	1	0	1	0	1	**1**	0	0	1	1	0	1	1	**1**	1	1	1	1	0	1	**1**	**1**
		F - Classroom Building (New)	1	1	1	0	1	0	1	**1**	0	0	0	1	0	1	1	**1**	1	1	1	1	0	1	**1**	**1**
		G - Vocational Education	3	5	3	3	5	5	5	**5**	3	3	4	5	4	4	3	**4**	0	3	0	4	0	3	**4**	**4**
		H - Student Open Lounge	3	3	0	0	4	0	0	**4**	0	0	0	0	0	0	0	**0**	0	0	0	4	0	0	**4**	**2**
		J - Restroom Facility	4	1	3	0	1	0	4	**3**	0	0	3	3	3	3	3	**3**	4	0	0	3	0	0	**4**	**3**
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	A - Administration/Student Services, Residence & Mess Hall	3	3	3	0	4	0	4	**4**	0	0	3	5	5	3	3	**4**	4	1	3	3	0	3	**3**	**4**
		B - Staff Housing	3	3	3	0	4	3	4	**4**	0	3	3	5	4	3	3	**4**	4	4	5	3	0	3	**4**	**4**
		C - Classrooms, Library & Shops	3	3	4	2	4	0	3	**4**	2	3	3	4	4	3	3	**4**	3	2	0	3	0	3	**3**	**3**
		D - Maintenance	3	3	0	0	4	4	3	**4**	0	3	3	0	3	3	3	**3**	3	4	0	3	0	3	**4**	**4**
		E - Shower House	3	3	3	0	3	3	0	**3**	0	0	4	4	4	0	0	**4**	3	0	0	3	0	0	**3**	**4**
		F - Security Post	3	3	3	0	5	0	4	**4**	0	0	0	5	0	3	4	**4**	0	0	0	3	0	3	**3**	**4**
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	A - Faculty Office (A - Admin/Faculty Office)	2	2	2	0	3	2	3	**3**	0	2	3	3	3	3	2	**3**	2	3	1	1	0	3	**3**	**3**
		B - Classroom (B - Classroom Building B)	2	2	2	0	3	3	3	**3**	0	2	0	2	2	3	1	**2**	3	3	1	3	0	2	**3**	**3**
		C - MITC & Classroom (C - Classroom Building C)	2	2	2	0	3	3	2	**3**	0	2	2	3	3	3	2	**3**	0	3	1	2	0	2	**3**	**3**
		D - Computer Lab (I - Computer Lab)	2	2	2	0	3	2	3	**3**	0	2	3	3	2	2	2	**3**	0	4	2	3	0	3	**3**	**3**
		E - Library Building (K - Learning Resources Centre)	2	2	2	0	3	2	3	**3**	0	2	3	3	2	2	1	**2**	0	3	1	3	0	2	**3**	**3**
		F - Counselling Center (F - CRE Building)	2	3	2	0	2	2	3	**3**	0	3	3	4	3	3	1	**3**	3	4	2	3	0	3	**3**	**3**
		G - Research Lab (J - Student Centre)	2	3	2	0	3	4	3	**3**	0	2	3	4	3	4	2	**3**	3	4	1	3	0	3	**3**	**3**
		H - Student Support Services (H - Student Services Building)	3	4	4	0	4	4	3	**4**	0	3	3	4	4	3	3	**4**	0	4	1	3	0	0	**3**	**4**
		I - Directors Office (D - Campus Deans Office)	3	3	4	0	5	3	3	**4**	0	3	3	5	3	3	1	**4**	5	3	1	3	0	4	**4**	**4**
		J - Restroom Facility (E - Restroom Facility)	2	2	2	0	3	3	2	**3**	0	2	3	3	3	3	3	**3**	3	0	0	0	0	0	**2**	**3**
		M - Midtown (Off Campus)	4	0	5	0	5	5	5	**5**	0	0	0	4	5	5	0	**5**	0	5	0	5	0	0	**5**	**5**
4.00	National Campus, Palikir, Pohnpei State	A - Classroom	3	2	2	2	3	3	3	**3**	3	3	3	4	3	3	3	**4**	3	4	3	3	0	3	**3**	**3**
		B - Classroom	3	2	3	3	3	2	3	**3**	3	3	3	4	3	3	3	**4**	3	4	3	3	0	3	**3**	**3**
		C - Cafeteria	2	2	2	0	3	2	3	**3**	0	2	3	4	2	3	3	**3**	3	4	3	4	0	3	**4**	**3**
		D - Male Residence Hall	2	2	2	2	3	2	2	**3**	2	2	2	4	3	4	2	**3**	3	3	2	3	0	2	**3**	**3**
		E - Female Residence Hall	2	2	2	2	3	2	2	**3**	3	2	2	4	3	4	2	**3**	3	4	2	3	0	2	**3**	**3**
		F - Faculty Office	3	3	2	0	3	2	2	**3**	0	0	3	2	2	3	2	**3**	2	4	2	3	0	3	**3**	**3**
		F2 - Faculty Office	3	2	0	0	3	2	3	**3**	0	2	3	3	3	3	3	**3**	3	2	3	2	0	2	**3**	**3**
		G - Administration	3	2	3	2	3	3	2	**3**	3	2	2	3	3	4	3	**3**	4	3	3	4	0	4	**4**	**3**
		H - Learning Resource Centre	2	2	2	3	3	3	3	**3**	3	2	3	3	3	3	3	**3**	3	3	3	3	3	2	**3**	**3**
		I - Agriculture	2	2	2	0	5	4	4	**4**	0	0	2	5	4	4	2	**3**	3	4	4	3	0	2	**3**	**3**
		J - A+ Centre	2	2	0	0	3	2	3	**3**	2	2	2	2	3	4	3	**3**	3	3	2	3	0	2	**3**	**3**
		K - Student Services	2	3	3	0	3	2	3	**3**	0	2	3	4	3	4	3	**4**	3	3	3	3	0	3	**3**	**3**
		L - Gymnasium	3	4	3	3	5	4	5	**4**	3	3	4	4	4	3	4	**4**	4	4	3	4	0	0	**4**	**4**
		M - Security, Maintenance, Bookstore & IT	1	2	3	2	5	3	5	**4**	1	2	3	3	3	3	4	**3**	3	4	2	4	0	3	**3**	**3**
		N - Maintenance Shop, Offices & Music Rooms	1	2	2	0	4	3	5	**4**	0	2	3	3	2	4	3	**3**	3	4	2	3	0	3	**3**	**4**
5.00	Pohnpei Campus, Kolonia, Pohnpei State	A - Administration Building (A)	3	4	3	0	3	4	3	**3**	2	0	3	4	3	4	3	**3**	3	3	2	3	0	2	**3**	**3**
		B - HTM Classroom (H)	3	3	3	0	3	3	3	**3**	2	0	3	3	3	3	3	**3**	2	4	2	3	0	3	**3**	**3**
		D - Electronics Classrooms 8 & 9, Maths/Science Office	5	4	3	3	4	3	3	**4**	2	0	3	4	3	3	3	**3**	4	3	2	3	0	2	**3**	**4**
		E - Classroom 1 - 4	3	3	3	0	5	4	3	**3**	0	0	3	4	3	3	3	**3**	3	3	0	3	0	4	**3**	**3**
		F - Classroom 5 - 7	2	4	3	0	4	2	3	**4**	0	0	0	3	3	4	3	**3**	3	3	0	3	0	0	**3**	**3**
		G - Bookstore (B)	4	4	5	0	4	4	4	**4**	3	0	3	4	5	5	3	**4**	0	3	0	3	0	2	**3**	**4**
		H - Security Post (P)	5	2	2	0	4	5	5	**4**	0	0	0	4	5	5	0	**5**	0	0	0	2	0	2	**2**	**4**
		I - IT Shop (I)	4	3	2	0	5	4	3	**4**	0	2	0	4	2	3	2	**3**	0	2	0	2	0	2	**2**	**3**
		J - UB & TSP (K)	0	5	5	5	5	0	4	**5**	4	0	4	5	5	5	4	**5**	4	4	4	4	0	3	**4**	**5**
		K - PSBDC Building (O)	0	5	5	5	5	0	4	**5**	4	0	4	5	5	5	4	**5**	4	4	4	4	0	3	**4**	**5**
		L - Electrical Shop (E)	2	3	3	3	3	2	2	**3**	2	2	2	3	3	3	3	**3**	2	2	2	3	0	3	**3**	**3**
		M - Maintenance Shop (R)	3	3	3	2	4	3	3	**3**	2	2	2	3	3	3	2	**3**	3	5	2	3	0	2	**3**	**3**
		N - Gymnasium (G)	3	4	3	0	3	4	3	**3**	0	2	3	4	4	4	2	**3**	2	2	0	3	0	3	**3**	**3**
		N - Student Services Centre (L)	3	2	2	0	2	2	3	**3**	0	2	3	3	2	3	3	**3**	3	2	0	3	0	2	**3**	**3**
		P - Mechanic Shop, Mechanic Store & AC Training Room (M)	2	2	3	0	3	3	2	**3**	0	2	3	3	3	4	3	**3**	2	2	2	3	0	2	**3**	**3**
		Q - Carpentry Shops & Classrooms (F)	2	3	3	0	3	3	5	**4**	0	0	4	5	3	3	3	**3**	3	3	2	3	0	2	**3**	**3**
6.00	Kosrae Campus, Tofol, Kosrae State	A - Administration	4	3	2	0	3	2	3	**3**	0	2	2	3	3	4	3	**3**	3	3	4	2	0	3	**3**	**3**
		B - Land Library & Voced Classrooms	2	2	2	0	3	2	3	**3**	0	2	2	3	2	3	2	**2**	2	4	5	2	0	2	**3**	**3**
		C - Land Grant Office	3	3	3	0	3	3	4	**4**	0	3	5	5	4	4	5	**5**	4	5	5	4	0	3	**4**	**4**
		D - Bookstore	3	3	3	0	4	3	4	**4**	0	0	0	5	4	4	3	**4**	0	2	0	3	0	3	**3**	**4**
		E - Small Business Development Centre (Part)	2	2	4	2	4	4	3	**3**	4	2	3	3	3	4	3	**3**	3	4	5	3	0	3	**3**	**3**
		F - Faculty Office	3	3	3	0	3	3	5	**4**	3	0	0	4	4	4	3	**4**	3	3	5	3	0	3	**4**	**4**
		G - Maintenance Shop	3	4	0	0	3	4	0	**4**	0	4	0	0	0	0	0	**4**	0	0	5	3	0	0	**4**	**4**
		H - Maintenance Office	4	3	4	0	4	5	3	**4**	0	0	0	3	4	3	0	**4**	0	0	5	3	0	3	**4**	**4**
		I - Former Library - Rose Mackwelung Building (Part)	2	4	3	0	4	3	3	**3**	0	4	4	4	4	4	2	**4**	2	3	5	3	0	3	**3**	**3**
		Research Lab (Off Camp)	2	2	2	0	4	3	3	**3**	2	0	2	2	3	2	1	**2**	2	2	2	2	0	2	**2**	**3**
		Toilet Block (attached to Lab Building Off Camp)	2	3	2	0	4	3	5	**3**	0	0	2	2	2	3	3	**3**	3	3	2	3	0	2	**3**	**3**

Condition Grade O = N/A	Not present or not applicable
Condition Grade 1 = Very Good	The building/element is new and is functioning as required.
Condition Grade 2 = Good	The building/element is functioning as required.
Condition Grade 3 = Average	The building element is approaching the end of its serviceable life but is still functioning as required. Maintenance is required to extend serviceable life.
Condition Grade 4 = Poor	The building element is showing signs of failure and deterioration. Extensive maintenance is required or the item should be considered for replacement.
Condition Grade 5 = Very Poor	The building element has failed and has deteriorated significantly beyond the point of repair. The item must be replaced

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **SUMMARY OF MAINTENANCE COSTS (BUILDINGS)**

Audit Date: June 2013

Revision: 3 - Draft Version Only

			Gross Floor Area (GFA)		External Wall Area (EWA)		Roof Area (RA)		Door & Window Area (DWA)		Internal Wall Area (IWA)	
Ref	**Building**	**Buildings**	**ft2**	**m2**	**ft2**	**m2**	**ft2**	**m2**	**ft2**	**m2**	**ft2**	**m2**
1.00	Yap Campus, Ruul, Yap State	9	23,213	2,157	20,827	1,935	34,873	3,240	5,349	497	13,256	1,231
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	6	22,374	2,079	20,439	1,899	28,856	2,681	3,983	370	16,707	1,552
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	11	21,371	1,985	23,052	2,142	35,242	3,274	3,271	304	7,829	727
4.00	National Campus, Palikir, Pohnpei State	15	124,691	11,584	100,098	9,299	130,619	12,135	24,769	2,301	49,858	4,632
5.00	Pohnpei Campus, Kolonia, Pohnpei State	16	70,087	6,511	62,069	5,766	83,974	7,801	11,829	1,099	37,100	3,447
6.00	Kosrae Campus, Tofol, Kosrae State	11	23,401	2,174	22,961	2,133	33,311	3,095	4,569	424	5,159	479
Total		**68**	**285,138**	**26,490**	**249,445**	**23,174**	**346,876**	**32,226**	**53,770**	**4,995**	**129,909**	**12,069**

Element	**Structure**							**Internal Fit-Out**					**Services**								
Maintenance Task	Building Wash	External Wall Painting	Protective Coatings to Roof	Wall Cladding Repairs	Roof Cladding Repairs	Door & Window Repairs	Misc Repairs	Floor Finishes Cleaning & Repairs	Internal Wall Painting	Ceiling & Soffit Painting	Internal Door Repairs	Misc Repairs	Fire Suppress. Detection & Alarm Systems	Mechanical Ventillation	A/C Systems	Hot Water Generation	Electrical Services	Hydraulic Services	Comm. Systems	Vertical Transport	Misc Repairs	
Unit	ft2	ft2	ft2	ft2	ft2	ft2	LS Allow	ft2	ft2	ft2	No.	LS Allow	ft2	LS Allow	No.	LS Allow	ft2	No.	LS Allow	LS Allow	LS Allow	
Rate/Cost ($ USD)	0.01	0.65	0.93	0.05	0.05	0.25	250.00	0.03	0.56	0.65	25.00	250.00	0.05	100.00	50.00	500.00	0.05	25.00	250.00	2,500.00	250.00	
Frequency (Years)	0.50	5.00	7.00	1.00	1.00	1.00	1.00	1.00	12.00	12.00	1.00	1.00	1.00	1.00	0.50	1.00	1.00	1.00	1.00	1.00	1.00	
Quantity	55,700	20,827	34,873	20,827	34,873	5,349	8	18,469	40,603	18,478	47	7	16,926	14	32	3	18,723	56	6	0	7	
Total Cost Per Occurrence ($ USD)	557	13,544	32,397	1,041	1,744	1,337	1,875	554	22,633	12,016	1,175	1,688	846	1,400	1,600	1,500	936	1,400	1,500	0	1,625	**Total**
Annualised Maint. Budget ($ USD)	**1,114**	**2,709**	**4,628**	**1,041**	**1,744**	**1,337**	**1,875**	**554**	**1,886**	**1,001**	**1,175**	**1,688**	**846**	**1,400**	**3,200**	**1,500**	**936**	**1,400**	**1,500**	**0**	**1,625**	**33,160**
				14,448						**6,304**							**12,407**					**8.1%**
Quantity	49,295	20,439	28,856	20,439	28,856	3,983	7	22,374	53,853	6,767	73	8	21,454	1	32	0	22,374	54	6	0	9	
Total Cost Per Occurrence ($ USD)	493	13,292	26,808	1,022	1,443	996	1,750	671	30,018	4,400	1,825	2,000	1,073	100	1,600	0	1,119	1,350	1,500	0	2,250	**Total**
Annualised Maint. Budget ($ USD)	**986**	**2,658**	**3,830**	**1,022**	**1,443**	**996**	**1,750**	**671**	**2,502**	**367**	**1,825**	**2,000**	**1,073**	**100**	**3,200**	**0**	**1,119**	**1,350**	**1,500**	**0**	**2,250**	**30,640**
				12,684						**7,364**							**10,591**					**7.5%**
Quantity	58,294	23,052	35,242	23,052	35,242	3,271	11	21,371	38,710	29,646	43	11	21,371	3	40	0	21,371	45	10	0	11	
Total Cost Per Occurrence ($ USD)	583	14,991	32,741	1,153	1,762	818	2,750	641	21,578	19,280	1,075	2,750	1,069	300	2,000	0	1,069	1,125	2,500	0	2,750	**Total**
Annualised Maint. Budget ($ USD)	**1,166**	**2,998**	**4,677**	**1,153**	**1,762**	**818**	**2,750**	**641**	**1,798**	**1,607**	**1,075**	**2,750**	**1,069**	**300**	**4,000**	**0**	**1,069**	**1,125**	**2,500**	**0**	**2,750**	**36,007**
				15,324						**7,871**							**12,812**					**8.8%**
Quantity	230,717	100,098	130,619	100,098	130,619	24,769	34	124,691	199,814	101,023	327	35	124,691	32	153	6	124,691	282	32	1	35	
Total Cost Per Occurrence ($ USD)	2,307	65,095	121,348	5,005	6,531	6,192	8,500	3,741	111,379	65,697	8,175	8,750	6,235	3,200	7,650	3,000	6,235	7,050	8,000	2,500	8,750	**Total**
Annualised Maint. Budget ($ USD)	**4,614**	**13,019**	**17,335**	**5,005**	**6,531**	**6,192**	**8,500**	**3,741**	**9,282**	**5,475**	**8,175**	**8,750**	**6,235**	**3,200**	**15,300**	**3,000**	**6,235**	**7,050**	**8,000**	**2,500**	**8,750**	**156,888**
				61,197						**35,422**							**60,269**					**38.5%**
Quantity	146,043	62,069	83,974	62,069	83,974	11,829	44	70,087	136,268	81,658	107	44	70,087	20	95	3	70,087	117	41	0	41	
Total Cost Per Occurrence ($ USD)	1,460	40,364	78,014	3,103	4,199	2,957	11,000	2,103	75,958	53,104	2,675	11,000	3,504	2,000	4,750	1,500	3,504	2,925	10,250	0	10,250	**Total**
Annualised Maint. Budget ($ USD)	**2,921**	**8,073**	**11,145**	**3,103**	**4,199**	**2,957**	**11,000**	**2,103**	**6,330**	**4,425**	**2,675**	**11,000**	**3,504**	**2,000**	**9,500**	**1,500**	**3,504**	**2,925**	**10,250**	**0**	**10,250**	**113,364**
				43,398						**26,533**							**43,434**					**27.8%**
Quantity	56,272	22,961	33,311	22,961	33,311	4,569	12	23,401	33,279	29,439	36	12	23,401	7	37	0	23,401	48	12	0	12	
Total Cost Per Occurrence ($ USD)	563	14,932	30,947	1,148	1,666	1,142	3,000	702	18,550	19,144	900	3,000	1,170	700	1,850	0	1,170	1,200	3,000	0	3,000	**Total**
Annualised Maint. Budget ($ USD)	**1,125**	**2,986**	**4,421**	**1,148**	**1,666**	**1,142**	**3,000**	**702**	**1,546**	**1,595**	**900**	**3,000**	**1,170**	**700**	**3,700**	**0**	**1,170**	**1,200**	**3,000**	**0**	**3,000**	**37,172**
				15,489						**7,743**							**13,940**					**9.1%**
Total Quantity	**596,321**	**249,445**	**346,876**	**249,445**	**346,876**	**53,770**	**116**	**280,394**	**502,527**	**267,011**	**633**	**117**	**277,931**	**77**	**389**	**12**	**280,648**	**602**	**107**	**1**	**115**	
Total Annualised Maint. Budget ($ USD)	**11,926**	**32,444**	**46,036**	**12,472**	**17,344**	**13,442**	**28,875**	**8,412**	**23,343**	**14,470**	**15,825**	**29,188**	**13,897**	**7,700**	**38,900**	**6,000**	**14,032**	**15,050**	**26,750**	**2,500**	**28,625**	**407,231**
				162,540						**91,237**							**153,454**					**100.0%**
Labour Portion (%)	**80%**	**50%**	**50%**	**60%**	**60%**	**50%**	**50%**	**80%**	**60%**	**60%**	**50%**	**50%**	**50%**	**70%**	**70%**	**70%**	**70%**	**70%**	**70%**	**40%**	**50%**	
Labour Cost ($ USD)	**9,541**	**16,222**	**23,018**	**7,483**	**10,406**	**6,721**	**14,438**	**6,729**	**14,006**	**8,682**	**7,913**	**14,594**	**6,948**	**5,390**	**27,230**	**4,200**	**9,823**	**10,535**	**18,725**	**1,000**	**14,313**	**237,917**
Labour Hours (Based on $3/Hour)	**3,180**	**5,407**	**7,673**	**2,494**	**3,469**	**2,240**	**4,813**	**2,243**	**4,669**	**2,894**	**2,638**	**4,865**	**2,316**	**1,797**	**9,077**	**1,400**	**3,274**	**3,512**	**6,242**	**333**	**4,771**	**79,306**
																			Number Maintenance Staff Required (Based on 1,800 Hours/PA)			**44.1**
Plant Portion (%)	**10%**	**10%**	**10%**	**10%**	**10%**	**0%**	**0%**	**10%**	**10%**	**10%**	**0%**	**0%**	**0%**	**10%**	**10%**	**10%**	**10%**	**10%**	**0%**	**20%**	**0%**	
Plant Cost ($ USD)	**1,193**	**3,244**	**4,604**	**1,247**	**1,734**	**0**	**0**	**841**	**2,334**	**1,447**	**0**	**0**	**0**	**770**	**3,890**	**600**	**1,403**	**1,505**	**0**	**500**	**0**	**25,313**
Material Portion (%)	**10%**	**40%**	**40%**	**30%**	**30%**	**50%**	**50%**	**10%**	**30%**	**30%**	**50%**	**50%**	**50%**	**20%**	**20%**	**20%**	**20%**	**20%**	**30%**	**40%**	**50%**	
Material Cost ($ USD)	**1,193**	**12,977**	**18,415**	**3,742**	**5,203**	**6,721**	**14,438**	**841**	**7,003**	**4,341**	**7,913**	**14,594**	**6,948**	**1,540**	**7,780**	**1,200**	**2,806**	**3,010**	**8,025**	**1,000**	**14,313**	**144,002**

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **SUMMARY OF MAINTENANCE COSTS (SITE INFRASTRUCTURE)**

Audit Date: June 2013

Revision: 3 - Draft Version Only

Ref	Location	Total Buildings No.	Total Building Area ft2	Total Building Area m2	Total Hard Surface Areas ft2	Total Hard Surface Areas m2	Total Green Surface Areas ft2	Total Green Surface Areas m2	Site Area ft2	Site Area m2	Element	Grounds Keeping				Car Parks, Roads & Pavements			Fences & Gates		Structures			Site Drainage			Electrical Infrastructure		Water Services	Site Furniture	Telecom Services	
											Maintenance Task	Mowing	Spraying	General Grounds Keeping	Pruning & General Tree Maint.	Regrade, Relevel & Compact Gravel Surface	Pot/Crack Fill Asphalt Surface	Pot/Crack Fill Concrete Surface	Repaint Fences & Gates	Fence & Gate Repairs	Minor Building Structures Wash	Minor Building Structures General Repairs	Minor Building Structures Repaint	Site Stormwater Drainage Maint.	Building Stormwater Drainage Maint.	Building Sewer Drainage Maint.	General Electrical Maint.	General Electrical Servicing	General Water Services Maint.	General Site Furniture Maint.	General Telecom Services	
											Unit	LS Allow / Green Area	LS Allow / Green Area	LS Allow / Green Area	LS Allow.	LS Allow / Area	LS Allow / Area	LS Allow / Area	LS Allow.	LS Allow.	LS Allow / GFA	LS Allow / Building No	LS Allow / GFA	LS Allow.	LS Allow / Building	LS Allow / Building	LS Allow / Building	LS Allow	LS Allow / Building	LS Allow.	LS Allow / Building	
											Rate/Cost ($ USD)	0.00023	0.00012	0.00046	2,500.00	0.28	0.05	0.05	2,000.00	500.00	0.01	100.00	0.65	1,000.00	50.00	50.00	100.00	1,000.00	25.00	1,000.00	25.00	
											Frequency (Years)	0.08	0.50	0.25	1.00	1.00	1.00	1.00	5.00	1.00	0.50	1.00	5.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
1.00	Yap Campus, Ruul, Yap State	9	23,213	2,157	15,426	1,433	266,283	24,738	304,923	28,328	Quantity	266,283	266,283	266,283	1	2,460	9,872	5,554	1	1	1,765	3	1,765	1	9	9	9	1	9	1	9	
											Total Cost Per Occurrence ($ USD)	62	31	124	2,500	686	494	278	2,000	500	18	300	1,148	1,000	450	450	900	1,000	225	1,000	225	Total
											Annualised Maint. Budget ($ USD)	742	62	495	2,500	686	494	278	400	500	35	300	230	1,000	450	450	900	1,000	225	1,000	225	11,971
												3,799				1,457			900		565			1,900			1,900		1,450			8.2%
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	6	22,374	2,079	6,052	562	1,541,891	143,245	1,570,317	145,886	Quantity	462,567	462,567	462,567	1	12,917	0	6,052	0	1	2,289	3	2,289	1	6	6	6	1	6	1	6	
											Total Cost Per Occurrence ($ USD)	107	54	215	2,500	3,600	0	303	0	500	23	300	1,488	1,000	300	300	600	1,000	150	1,000	150	Total
											Annualised Maint. Budget ($ USD)	1,289	107	859	2,500	3,600	0	303	0	500	46	300	298	1,000	300	300	600	1,000	150	1,000	150	14,302
												4,756				3,903			500		643			1,600			1,600		1,300			9.8%
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	11	21,371	1,985	9,288	863	59,747	5,551	90,407	8,399	Quantity	59,747	59,747	59,747	1	5,517	0	3,772	1	1	1,322	3	1,322	1	11	11	11	1	11	1	11	
											Total Cost Per Occurrence ($ USD)	14	7	28	2,500	1,538	0	189	2,000	500	13	300	859	1,000	550	550	1,100	1,000	275	1,000	275	Total
											Annualised Maint. Budget ($ USD)	167	14	111	2,500	1,538	0	189	400	500	26	300	172	1,000	550	550	1,100	1,000	275	1,000	275	11,666
												2,791				1,726			900		498			2,100			2,100		1,550			8.0%
4.00	National Campus, Palikir, Pohnpei State	15	124,691	11,584	323,488	30,053	2,853,895	265,133	3,177,382	295,186	Quantity	2,853,895	2,853,895	2,853,895	2	17,590	172,632	116,033	2	2	18,219	10	18,219	1	15	15	15	1	15	1	15	
											Total Cost Per Occurrence ($ USD)	663	331	1,326	5,000	4,903	8,632	5,802	4,000	1,000	182	1,000	11,848	1,000	750	750	1,500	1,000	375	1,000	375	Total
											Annualised Maint. Budget ($ USD)	7,954	663	5,303	5,000	4,903	8,632	5,802	800	1,000	364	1,000	2,370	1,000	750	750	1,500	1,000	375	1,000	375	50,539
												18,919				19,336			1,800		3,734			2,500			2,500		1,750			34.5%
5.00	Pohnpei Campus, Kolonia, Pohnpei State	17	70,087	6,511	86,161	8,005	644,456	59,871	730,617	67,876	Quantity	644,456	644,456	644,456	2	53,975	0	23,687	2	2	8,388	17	7,129	2	17	17	17	1	17	2	17	
											Total Cost Per Occurrence ($ USD)	150	75	299	5,000	15,043	0	1,184	4,000	1,000	84	1,700	4,636	2,000	850	850	1,700	1,000	425	2,000	425	Total
											Annualised Maint. Budget ($ USD)	1,796	150	1,197	5,000	15,043	0	1,184	800	1,000	168	1,700	927	2,000	850	850	1,700	1,000	425	2,000	425	38,216
												8,143				16,228			1,800		2,795			3,700			2,700		2,850			26.1%
6.00	Kosrae Campus, Tofol, Kosrae State	11	23,401	2,174	42,718	3,969	344,086	31,966	410,205	38,109	Quantity	344,086	344,086	344,086	1	24,385	0	11,116	1	2	6,913	3	6,348	1	11	11	11	1	11	1	11	
											Total Cost Per Occurrence ($ USD)	80	40	160	2,500	6,796	0	556	2,000	1,000	69	300	4,128	1,000	550	550	1,100	1,000	275	1,000	275	Total
											Annualised Maint. Budget ($ USD)	959	80	639	2,500	6,796	0	556	400	1,000	138	300	826	1,000	550	550	1,100	1,000	275	1,000	275	19,944
												4,178				7,352			1,400		1,264			2,100			2,100		1,550			13.6%
Total		**69**	**285,138**	**26,490**	**483,132**	**44,884**	**5,710,359**	**530,505**	**6,283,851**	**583,784**	**Total Quantity**	**4,631,035**	**4,631,035**	**4,631,035**	**8**	**116,844**	**182,505**	**166,213**	**7**	**9**	**38,895**	**39**	**37,071**	**7**	**69**	**69**	**69**	**6**	**69**	**7**	**69**	
											Total Annualised Maint. Budget ($ USD)	**12,907**	**1,076**	**8,605**	**20,000**	**32,565**	**9,125**	**8,311**	**2,800**	**4,500**	**778**	**3,900**	**4,822**	**7,000**	**3,450**	**3,450**	**6,900**	**6,000**	**1,725**	**7,000**	**1,725**	**146,638**
												42,587				50,001			7,300		9,499			13,900			12,900		10,450			100.0%
											Labour Portion (%)	**70%**	**35%**	**50%**	**70%**	**30%**	**30%**	**30%**	**70%**	**80%**	**70%**	**50%**	**60%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	
											Labour Cost ($ USD)	**9,035**	**376**	**4,302**	**14,000**	**9,770**	**2,738**	**2,493**	**1,960**	**3,600**	**545**	**1,950**	**2,893**	**3,500**	**1,725**	**1,725**	**3,450**	**3,000**	**863**	**3,500**	**863**	**72,287**
											Labour Hours (Based on $3/Hour)	**3,012**	**125**	**1,434**	**4,667**	**3,257**	**913**	**831**	**653**	**1,200**	**182**	**650**	**964**	**1,167**	**575**	**575**	**1,150**	**1,000**	**288**	**1,167**	**288**	**24,096**
																													Number Maintenance Staff Required (Based on 1,800 Hours/PA)			**13.4**
											Plant Portion (%)	**30%**	**30%**	**25%**	**30%**	**50%**	**50%**	**50%**	**0%**	**0%**	**20%**	**20%**	**10%**	**30%**	**30%**	**30%**	**30%**	**30%**	**30%**	**0%**	**30%**	
											Plant Cost ($ USD)	**3,872**	**323**	**2,151**	**6,000**	**16,283**	**4,563**	**4,155**	**0**	**0**	**156**	**780**	**482**	**2,100**	**1,035**	**1,035**	**2,070**	**1,800**	**518**	**0**	**518**	**47,839**
											Material Portion (%)	**0%**	**35%**	**25%**	**0%**	**20%**	**20%**	**20%**	**30%**	**20%**	**10%**	**30%**	**30%**	**20%**	**20%**	**20%**	**20%**	**20%**	**20%**	**50%**	**20%**	
											Material Cost ($ USD)	**0**	**376**	**2,151**	**0**	**6,513**	**1,825**	**1,662**	**840**	**900**	**78**	**1,170**	**1,446**	**1,400**	**690**	**690**	**1,380**	**1,200**	**345**	**3,500**	**345**	**26,512**

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **SUMMARY OF OPTIMISED MAINTENANCE STRATEGY (BUILDINGS & SITE INFRASTRUCTURE)**

Date: June 2013

Revision: 3 - Draft Version Only

		Building Area		Site Area		Base Maintenance Assessment	Assessment Re-Calculated based on Voluntary Labour Maintenance Regime				Voluntary Labour		
Ref	Campus	GFA (ft2)	GFA (m2)	Area (ft2)	Area (m2)	Total Annualised Maintenance Cost (Excluding Escalation)	Buildings Total Annualised Maintenance Cost (Excluding Escalation)	Site Infrastructure Total Annualised Maintenance Cost (Excluding Escalation)	Total Annualised Maintenance Cost (Excluding Escalation)	Variance from Base Assessment (Excluding Escalation)	Buildings Total Voluntary Labour Required	Site Infrastructure Total Voluntary Labour Required	Total Voluntary Labour Required
1.00	Yap Campus, Ruul, Yap State	23,213	2,157	304,923	28,328	**45,130**	23,204	9,531	**32,735**	(12,395)	3,318	813	**4,132**
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	22,374	2,079	1,570,317	145,886	**44,942**	22,040	11,912	**33,951**	(10,991)	2,867	797	**3,664**
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	21,371	1,985	90,407	8,399	**47,673**	25,670	9,459	**35,129**	(12,543)	3,445	736	**4,181**
4.00	National Campus, Palikir, Pohnpei State	124,691	11,584	3,177,382	295,186	**207,427**	113,223	42,151	**155,374**	(52,053)	14,555	2,796	**17,351**
5.00	Pohnpei Campus, Kolonia, Pohnpei State	70,087	6,511	730,617	67,876	**151,580**	85,234	32,883	**118,117**	(33,463)	9,377	1,777	**11,154**
6.00	Kosrae Campus, Tofol, Kosrae State	23,401	2,174	410,205	38,109	**57,116**	27,042	17,002	**44,044**	(13,072)	3,377	981	**4,357**
	Total	**285,138**	**26,490**	**6,283,851**	**583,784**	**553,869**	**296,413**	**122,938**	**419,351**	**(134,518)**	**36,939**	**7,900**	**44,839**
											Total Student Roll (Approximate Only)		**2,500**
											Average Hours Required Per Student		**18**

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **OPTIMISED MAINTENANCE STRATEGY (BUILDINGS)**

Audit Date: June 2013

Revision: 3 - Draft Version Only

Ref	Building	Gross Floor Area (GFA) ft2	Gross Floor Area (GFA) m2	External Wall Area (EWA) ft2	External Wall Area (EWA) m2	Roof Area (RA) ft2	Roof Area (RA) m2	Door & Window Area (DWA) ft2	Door & Window Area (DWA) m2	Internal Wall Area (IWA) ft2	Internal Wall Area (IWA) m2
1.00	Yap Campus, Ruul, Yap State	23,213	2,157	20,827	1,935	34,873	3,240	5,349	497	13,256	1,231
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	22,374	2,079	20,439	1,899	28,856	2,681	3,983	370	16,707	1,552
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	21,371	1,985	23,052	2,142	35,242	3,274	3,271	304	7,829	727
4.00	National Campus, Palikir, Pohnpei State	124,691	11,584	100,098	9,299	130,619	12,135	24,769	2,301	49,858	4,632
5.00	Pohnpei Campus, Kolonia, Pohnpei State	70,087	6,511	62,069	5,766	83,974	7,801	11,829	1,099	37,100	3,447
6.00	Kosrae Campus, Tofol, Kosrae State	23,401	2,174	22,961	2,133	33,311	3,095	4,569	424	5,159	479
Total		**285,138**	**26,490**	**249,445**	**23,174**	**346,876**	**32,226**	**53,770**	**4,995**	**129,909**	**12,069**

Maintenance Element	Structure Cost ($ USD)	Internal Fit-Out Cost ($ USD)	Services Cost ($ USD)	
1.00 Yap Campus, Ruul, Yap State				
OPT1 - Total - Fully Employed Labour Regime Only	14,448	6,304	12,407	33,160
OPT2 - Total - Combined Employed & Voluntary Labour Regime	9,889	4,128	9,187	23,204
Total - Cost Saving	(4,560)	(2,176)	(3,220)	(9,955)
Total - Voluntary Labour Required (Hours)	1,520	725	1,073	3,318
2.00 FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State				
OPT1 - Total - Fully Employed Labour Regime Only	12,684	7,364	10,591	30,640
OPT2 - Total - Combined Employed & Voluntary Labour Regime	8,652	5,107	8,281	22,040
Total - Cost Saving	(4,033)	(2,258)	(2,310)	(8,601)
Total - Voluntary Labour Required (Hours)	1,344	753	770	2,867
3.00 Chuuk Campus, Nepukos Weno, Chuuk State				
OPT1 - Total - Fully Employed Labour Regime Only	15,324	7,871	12,812	36,007
OPT2 - Total - Combined Employed & Voluntary Labour Regime	10,553	5,315	9,802	25,670
Total - Cost Saving	(4,770)	(2,556)	(3,010)	(10,336)
Total - Voluntary Labour Required (Hours)	1,590	852	1,003	3,445
4.00 National Campus, Palikir, Pohnpei State				
OPT1 - Total - Fully Employed Labour Regime Only	61,197	35,422	60,269	156,888
OPT2 - Total - Combined Employed & Voluntary Labour Regime	42,328	23,576	47,319	113,223
Total - Cost Saving	(18,869)	(11,846)	(12,950)	(43,665)
Total - Voluntary Labour Required (Hours)	6,290	3,949	4,317	14,555
5.00 Pohnpei Campus, Kolonia, Pohnpei State				
OPT1 - Total - Fully Employed Labour Regime Only	43,398	26,533	43,434	113,364
OPT2 - Total - Combined Employed & Voluntary Labour Regime	31,452	18,398	35,384	85,234
Total - Cost Saving	(11,946)	(8,135)	(8,050)	(28,131)
Total - Voluntary Labour Required (Hours)	3,982	2,712	2,683	9,377
6.00 Kosrae Campus, Tofol, Kosrae State				
OPT1 - Total - Fully Employed Labour Regime Only	15,489	7,743	13,940	37,172
OPT2 - Total - Combined Employed & Voluntary Labour Regime	10,885	5,297	10,860	27,042
Total - Cost Saving	(4,604)	(2,446)	(3,080)	(10,130)
Total - Voluntary Labour Required (Hours)	1,535	815	1,027	3,377
OPT1 - Grand Total - Fully Employed Labour Regime Only	162,540	91,237	153,454	407,231
OPT2 - Grand Total - Combined Employed & Voluntary Labour Regime	113,759	61,820	120,834	296,413
Grand Total - Cost Saving	(48,781)	(29,417)	(32,620)	(110,818)
Grand Total - Voluntary Labour Required (Hours)	16,260	9,806	10,873	36,939
Cost Saving as %	43%	48%	27%	37%

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **OPTIMISED MAINTENANCE STRATEGY (BUILDINGS)**

Audit Date: June 2013

Revision: 3 - Draft Version Only

		Gross Floor Area (GFA)		External Wall Area (EWA)		Roof Area (RA)		Door & Window Area (DWA)		Internal Wall Area (IWA)	
Ref	**Building**	**ft2**	**m2**	**ft2**	**m2**	**ft2**	**m2**	**ft2**	**m2**	**ft2**	**m2**
1.00	Yap Campus, Ruul, Yap State	23,213	2,157	20,827	1,935	34,873	3,240	5,349	497	13,256	1,231

Element	**Structure**							**Internal Fit-Out**					**Services**									
Maintenance Task	Building Wash	External Wall Painting	Protective Coatings to Roof	Wall Cladding Repairs	Roof Cladding Repairs	Door & Window Repairs	Misc Repairs	Floor Finishes Cleaning & Repairs	Internal Wall Painting	Ceiling & Soffit Painting	Internal Door Repairs	Misc Repairs	Fire Suppress. Detection & Alarm Systems	Mechanical Ventillation	A/C Systems	Hot Water Generation	Electrical Services	Hydraulic Services	Comm. Systems	Vertical Transport	Misc Repairs	
Unit	ft2	ft2	ft2	ft2	ft2	ft2	LS Allow	ft2	ft2	ft2	No.	LS Allow	ft2	LS Allow	No.	LS Allow	ft2	No.	LS Allow	LS Allow	LS Allow	
Rate/Cost ($ USD)	0.01	0.65	0.93	0.05	0.05	0.25	250.00	0.03	0.56	0.65	25.00	250.00	0.05	100.00	50.00	500.00	0.05	25.00	250.00	2,500.00	250.00	
Frequency (Years)	0.50	5.00	7.00	1.00	1.00	1.00	1.00	1.00	12.00	12.00	1.00	1.00	1.00	1.00	0.50	1.00	1.00	1.00	1.00	1.00	1.00	
Quantity	55,700	20,827	34,873	20,827	34,873	5,349	8	18,469	40,603	18,478	47	7	16,926	14	32	3	18,723	56	6	0	7	
Total Cost Per Occurrence ($ USD)	557	13,544	32,397	1,041	1,744	1,337	1,875	554	22,633	12,016	1,175	1,688	846	1,400	1,600	1,500	936	1,400	1,500	0	1,625	**Total**
Annualised Maint. Budget ($ USD)	**1,114**	**2,709**	**4,628**	**1,041**	**1,744**	**1,337**	**1,875**	**554**	**1,886**	**1,001**	**1,175**	**1,688**	**846**	**1,400**	**3,200**	**1,500**	**936**	**1,400**	**1,500**	**0**	**1,625**	**33,160**
				14,448						**6,304**							**12,407**					
Labour Portion (%)	**80%**	**50%**	**50%**	**60%**	**60%**	**50%**	**50%**	**80%**	**60%**	**60%**	**50%**	**50%**	**50%**	**70%**	**70%**	**70%**	**70%**	**70%**	**70%**	**40%**	**50%**	
Labour Cost ($ USD)	**891**	**1,354**	**2,314**	**625**	**1,046**	**669**	**938**	**443**	**1,132**	**601**	**588**	**844**	**423**	**980**	**2,240**	**1,050**	**655**	**980**	**1,050**	**0**	**813**	**19,635**
Labour Hours (Based on $3/Hour)	**297**	**451**	**771**	**208**	**349**	**223**	**313**	**148**	**377**	**200**	**196**	**281**	**141**	**327**	**747**	**350**	**218**	**327**	**350**	**0**	**271**	**6,545**
Voluntary Labour	**297**	**451**	**771**	**0**	**0**	**0**	**0**	**148**	**377**	**200**	**0**	**0**	**0**	**327**	**747**	**0**	**0**	**0**	**0**	**0**	**0**	**3,318**
Employed or Contract Labour	**0**	**0**	**0**	**208**	**349**	**223**	**313**	**0**	**0**	**0**	**196**	**281**	**141**	**0**	**0**	**350**	**218**	**327**	**350**	**0**	**271**	**3,226**
Labour Savings (Based on $3/Hour)	**-891**	**-1,354**	**-2,314**	**0**	**0**	**0**	**0**	**-443**	**-1,132**	**-601**	**0**	**0**	**0**	**-980**	**-2,240**	**0**	**0**	**0**	**0**	**0**	**0**	**-9,955**
Adjusted Labour Cost ($ USD)	**0**	**0**	**0**	**625**	**1,046**	**669**	**938**	**0**	**0**	**0**	**588**	**844**	**423**	**0**	**0**	**1,050**	**655**	**980**	**1,050**	**0**	**813**	**9,679**
Plant Portion (%)	**10%**	**10%**	**10%**	**10%**	**10%**	**0%**	**0%**	**10%**	**10%**	**10%**	**0%**	**0%**	**0%**	**10%**	**10%**	**10%**	**10%**	**10%**	**0%**	**20%**	**0%**	
Plant Cost ($ USD)	**111**	**271**	**463**	**104**	**174**	**0**	**0**	**55**	**189**	**100**	**0**	**0**	**0**	**140**	**320**	**150**	**94**	**140**	**0**	**0**	**0**	**2,311**
Material Portion (%)	**10%**	**40%**	**40%**	**30%**	**30%**	**50%**	**50%**	**10%**	**30%**	**30%**	**50%**	**50%**	**50%**	**20%**	**20%**	**20%**	**20%**	**20%**	**30%**	**40%**	**50%**	
Material Cost ($ USD)	**111**	**1,084**	**1,851**	**312**	**523**	**669**	**938**	**55**	**566**	**300**	**588**	**844**	**423**	**280**	**640**	**300**	**187**	**280**	**450**	**0**	**813**	**11,214**
Adjusted Annualised Maint. Budget ($ USD)	**223**	**1,354**	**2,314**	**1,041**	**1,744**	**1,337**	**1,875**	**111**	**754**	**401**	**1,175**	**1,688**	**846**	**420**	**960**	**1,500**	**936**	**1,400**	**1,500**	**0**	**1,625**	**23,204**
				9,889						**4,128**							**9,187**					

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **OPTIMISED MAINTENANCE STRATEGY (BUILDINGS)**

Audit Date: June 2013

Revision: 3 - Draft Version Only

Ref	Building	Gross Floor Area (GFA) ft2	Gross Floor Area (GFA) m2	External Wall Area (EWA) ft2	External Wall Area (EWA) m2	Roof Area (RA) ft2	Roof Area (RA) m2	Door & Window Area (DWA) ft2	Door & Window Area (DWA) m2	Internal Wall Area (IWA) ft2	Internal Wall Area (IWA) m2
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	22,374	2,079	20,439	1,899	28,856	2,681	3,983	370	16,707	1,552

Element	Structure							Internal Fit-Out					Services								
Maintenance Task	Building Wash	External Wall Painting	Protective Coatings to Roof	Wall Cladding Repairs	Roof Cladding Repairs	Door & Window Repairs	Misc Repairs	Floor Finishes Cleaning & Repairs	Internal Wall Painting	Ceiling & Soffit Painting	Internal Door Repairs	Misc Repairs	Fire Suppress. Detection & Alarm Systems	Mechanical Ventillation	A/C Systems	Hot Water Generation	Electrical Services	Hydraulic Services	Comm. Systems	Vertical Transport	Misc Repairs	
Unit	ft2	ft2	ft2	ft2	ft2	ft2	LS Allow	ft2	ft2	ft2	No.	LS Allow	ft2	LS Allow	No.	LS Allow	ft2	No.	LS Allow	LS Allow	LS Allow	
Rate/Cost ($ USD)	0.01	0.65	0.93	0.05	0.05	0.25	250.00	0.03	0.56	0.65	25.00	250.00	0.05	100.00	50.00	500.00	0.05	25.00	250.00	2,500.00	250.00	
Frequency (Years)	0.50	5.00	7.00	1.00	1.00	1.00	1.00	1.00	12.00	12.00	1.00	1.00	1.00	1.00	0.50	1.00	1.00	1.00	1.00	1.00	1.00	
Quantity	49,295	20,439	28,856	20,439	28,856	3,983	7	22,374	53,853	6,767	73	8	21,454	1	32	0	22,374	54	6	0	9	
Total Cost Per Occurrence ($ USD)	493	13,292	26,808	1,022	1,443	996	1,750	671	30,018	4,400	1,825	2,000	1,073	100	1,600	0	1,119	1,350	1,500	0	2,250	Total
Annualised Maint. Budget ($ USD)	986	2,658	3,830	1,022	1,443	996	1,750	671	2,502	367	1,825	2,000	1,073	100	3,200	0	1,119	1,350	1,500	0	2,250	30,640
				12,684						7,364							10,591					
Labour Portion (%)	80%	50%	50%	60%	60%	50%	50%	80%	60%	60%	50%	50%	50%	70%	70%	70%	70%	70%	70%	40%	50%	
Labour Cost ($ USD)	789	1,329	1,915	613	866	498	875	537	1,501	220	913	1,000	536	70	2,240	0	783	945	1,050	0	1,125	17,804
Labour Hours (Based on $3/Hour)	263	443	638	204	289	166	292	179	500	73	304	333	179	23	747	0	261	315	350	0	375	5,935
Voluntary Labour	263	443	638	0	0	0	0	179	500	73	0	0	0	23	747	0	0	0	0	0	0	2,867
Employed or Contract Labour	0	0	0	204	289	166	292	0	0	0	304	333	179	0	0	0	261	315	350	0	375	3,068
Labour Savings (Based on $3/Hour)	-789	-1,329	-1,915	0	0	0	0	-537	-1,501	-220	0	0	0	-70	-2,240	0	0	0	0	0	0	-8,601
Adjusted Labour Cost ($ USD)	0	0	0	613	866	498	875	0	0	0	913	1,000	536	0	0	0	783	945	1,050	0	1,125	9,204
Plant Portion (%)	10%	10%	10%	10%	10%	0%	0%	10%	10%	10%	0%	0%	0%	10%	10%	10%	10%	10%	0%	20%	0%	
Plant Cost ($ USD)	99	266	383	102	144	0	0	67	250	37	0	0	0	10	320	0	112	135	0	0	0	1,925
Material Portion (%)	10%	40%	40%	30%	30%	50%	50%	10%	30%	30%	50%	50%	50%	20%	20%	20%	20%	20%	30%	40%	50%	
Material Cost ($ USD)	99	1,063	1,532	307	433	498	875	67	750	110	913	1,000	536	20	640	0	224	270	450	0	1,125	10,911
Adjusted Annualised Maint. Budget ($ USD)	197	1,329	1,915	1,022	1,443	996	1,750	134	1,001	147	1,825	2,000	1,073	30	960	0	1,119	1,350	1,500	0	2,250	22,040
				8,652						5,107							8,281					

Project: **COLLEGE OF MICRONESIA - FSM**

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Ref	Building	Gross Floor Area (GFA) ft2	Gross Floor Area (GFA) m2	External Wall Area (EWA) ft2	External Wall Area (EWA) m2	Roof Area (RA) ft2	Roof Area (RA) m2	Door & Window Area (DWA) ft2	Door & Window Area (DWA) m2	Internal Wall Area (IWA) ft2	Internal Wall Area (IWA) m2
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	21,371	1,985	23,052	2,142	35,242	3,274	3,271	304	7,829	727

Element	Structure							Internal Fit-Out					Services								
Maintenance Task	Building Wash	External Wall Painting	Protective Coatings to Roof	Wall Cladding Repairs	Roof Cladding Repairs	Door & Window Repairs	Misc Repairs	Floor Finishes Cleaning & Repairs	Internal Wall Painting	Ceiling & Soffit Painting	Internal Door Repairs	Misc Repairs	Fire Suppress. Detection & Alarm Systems	Mechanical Ventillation	A/C Systems	Hot Water Generation	Electrical Services	Hydraulic Services	Comm. Systems	Vertical Transport	Misc Repairs	
Unit	ft2	ft2	ft2	ft2	ft2	ft2	LS Allow	ft2	ft2	ft2	No.	LS Allow	ft2	LS Allow	No.	LS Allow	ft2	No.	LS Allow	LS Allow	LS Allow	
Rate/Cost ($ USD)	0.01	0.65	0.93	0.05	0.05	0.25	250.00	0.03	0.56	0.65	25.00	250.00	0.05	100.00	50.00	500.00	0.05	25.00	250.00	2,500.00	250.00	
Frequency (Years)	0.50	5.00	7.00	1.00	1.00	1.00	1.00	1.00	12.00	12.00	1.00	1.00	1.00	1.00	0.50	1.00	1.00	1.00	1.00	1.00	1.00	
Quantity	58,294	23,052	35,242	23,052	35,242	3,271	11	21,371	38,710	29,646	43	11	21,371	3	40	0	21,371	45	10	0	11	
Total Cost Per Occurrence ($ USD)	583	14,991	32,741	1,153	1,762	818	2,750	641	21,578	19,280	1,075	2,750	1,069	300	2,000	0	1,069	1,125	2,500	0	2,750	**Total**
Annualised Maint. Budget ($ USD)	**1,166**	**2,998**	**4,677**	**1,153**	**1,762**	**818**	**2,750**	**641**	**1,798**	**1,607**	**1,075**	**2,750**	**1,069**	**300**	**4,000**	**0**	**1,069**	**1,125**	**2,500**	**0**	**2,750**	**36,007**
				15,324						**7,871**							**12,812**					
Labour Portion (%)	**80%**	**50%**	**50%**	**60%**	**60%**	**50%**	**50%**	**80%**	**60%**	**60%**	**50%**	**50%**	**50%**	**70%**	**70%**	**70%**	**70%**	**70%**	**70%**	**40%**	**50%**	
Labour Cost ($ USD)	**933**	**1,499**	**2,339**	**692**	**1,057**	**409**	**1,375**	**513**	**1,079**	**964**	**538**	**1,375**	**534**	**210**	**2,800**	**0**	**748**	**788**	**1,750**	**0**	**1,375**	**20,976**
Labour Hours (Based on $3/Hour)	**311**	**500**	**780**	**231**	**352**	**136**	**458**	**171**	**360**	**321**	**179**	**458**	**178**	**70**	**933**	**0**	**249**	**263**	**583**	**0**	**458**	**6,992**
Voluntary Labour	**311**	**500**	**780**	**0**	**0**	**0**	**0**	**171**	**360**	**321**	**0**	**0**	**0**	**70**	**933**	**0**	**0**	**0**	**0**	**0**	**0**	**3,445**
Employed or Contract Labour	**0**	**0**	**0**	**231**	**352**	**136**	**458**	**0**	**0**	**0**	**179**	**458**	**178**	**0**	**0**	**0**	**249**	**263**	**583**	**0**	**458**	**3,547**
Labour Savings (Based on $3/Hour)	**-933**	**-1,499**	**-2,339**	**0**	**0**	**0**	**0**	**-513**	**-1,079**	**-964**	**0**	**0**	**0**	**-210**	**-2,800**	**0**	**0**	**0**	**0**	**0**	**0**	**-10,336**
Adjusted Labour Cost ($ USD)	**0**	**0**	**0**	**692**	**1,057**	**409**	**1,375**	**0**	**0**	**0**	**538**	**1,375**	**534**	**0**	**0**	**0**	**748**	**788**	**1,750**	**0**	**1,375**	**10,640**
Plant Portion (%)	**10%**	**10%**	**10%**	**10%**	**10%**	**0%**	**0%**	**10%**	**10%**	**10%**	**0%**	**0%**	**0%**	**10%**	**10%**	**10%**	**10%**	**10%**	**0%**	**20%**	**0%**	
Plant Cost ($ USD)	**117**	**300**	**468**	**115**	**176**	**0**	**0**	**64**	**180**	**161**	**0**	**0**	**0**	**30**	**400**	**0**	**107**	**113**	**0**	**0**	**0**	**2,230**
Material Portion (%)	**10%**	**40%**	**40%**	**30%**	**30%**	**50%**	**50%**	**10%**	**30%**	**30%**	**50%**	**50%**	**50%**	**20%**	**20%**	**20%**	**20%**	**20%**	**30%**	**40%**	**50%**	
Material Cost ($ USD)	**117**	**1,199**	**1,871**	**346**	**529**	**409**	**1,375**	**64**	**539**	**482**	**538**	**1,375**	**534**	**60**	**800**	**0**	**214**	**225**	**750**	**0**	**1,375**	**12,801**
Adjusted Annualised Maint. Budget ($ USD)	**233**	**1,499**	**2,339**	**1,153**	**1,762**	**818**	**2,750**	**128**	**719**	**643**	**1,075**	**2,750**	**1,069**	**90**	**1,200**	**0**	**1,069**	**1,125**	**2,500**	**0**	**2,750**	**25,670**
				10,553						**5,315**							**9,802**					

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **OPTIMISED MAINTENANCE STRATEGY (BUILDINGS)**

Audit Date: June 2013

Revision: 3 - Draft Version Only

		Gross Floor Area (GFA)		External Wall Area (EWA)		Roof Area (RA)		Door & Window Area (DWA)		Internal Wall Area (IWA)	
Ref	**Building**	**ft2**	**m2**	**ft2**	**m2**	**ft2**	**m2**	**ft2**	**m2**	**ft2**	**m2**
4.00	National Campus, Palikir, Pohnpei State	124,691	11,584	100,098	9,299	130,619	12,135	24,769	2,301	49,858	4,632

Element	**Structure**							**Internal Fit-Out**					**Services**								
Maintenance Task	Building Wash	External Wall Painting	Protective Coatings to Roof	Wall Cladding Repairs	Roof Cladding Repairs	Door & Window Repairs	Misc Repairs	Floor Finishes Cleaning & Repairs	Internal Wall Painting	Ceiling & Soffit Painting	Internal Door Repairs	Misc Repairs	Fire Suppress. Detection & Alarm Systems	Mechanical Ventillation	A/C Systems	Hot Water Generation	Electrical Services	Hydraulic Services	Comm. Systems	Vertical Transport	Misc Repairs	
Unit	ft2	ft2	ft2	ft2	ft2	ft2	LS Allow	ft2	ft2	ft2	No.	LS Allow	ft2	LS Allow	No.	LS Allow	ft2	No.	LS Allow	LS Allow	LS Allow	
Rate/Cost ($ USD)	0.01	0.65	0.93	0.05	0.05	0.25	250.00	0.03	0.56	0.65	25.00	250.00	0.05	100.00	50.00	500.00	0.05	25.00	250.00	2,500.00	250.00	
Frequency (Years)	0.50	5.00	7.00	1.00	1.00	1.00	1.00	1.00	12.00	12.00	1.00	1.00	1.00	1.00	0.50	1.00	1.00	1.00	1.00	1.00	1.00	
Quantity	230,717	100,098	130,619	100,098	130,619	24,769	34	124,691	199,814	101,023	327	35	124,691	32	153	6	124,691	282	32	1	35	
Total Cost Per Occurrence ($ USD)	2,307	65,095	121,348	5,005	6,531	6,192	8,500	3,741	111,379	65,697	8,175	8,750	6,235	3,200	7,650	3,000	6,235	7,050	8,000	2,500	8,750	**Total**
Annualised Maint. Budget ($ USD)	**4,614**	**13,019**	**17,335**	**5,005**	**6,531**	**6,192**	**8,500**	**3,741**	**9,282**	**5,475**	**8,175**	**8,750**	**6,235**	**3,200**	**15,300**	**3,000**	**6,235**	**7,050**	**8,000**	**2,500**	**8,750**	**156,888**
				61,197						**35,422**							**60,269**					
Labour Portion (%)	**80%**	**50%**	**50%**	**60%**	**60%**	**50%**	**50%**	**80%**	**60%**	**60%**	**50%**	**50%**	**50%**	**70%**	**70%**	**70%**	**70%**	**70%**	**70%**	**40%**	**50%**	
Labour Cost ($ USD)	**3,691**	**6,510**	**8,668**	**3,003**	**3,919**	**3,096**	**4,250**	**2,993**	**5,569**	**3,285**	**4,088**	**4,375**	**3,117**	**2,240**	**10,710**	**2,100**	**4,364**	**4,935**	**5,600**	**1,000**	**4,375**	**91,887**
Labour Hours (Based on $3/Hour)	**1,230**	**2,170**	**2,889**	**1,001**	**1,306**	**1,032**	**1,417**	**998**	**1,856**	**1,095**	**1,363**	**1,458**	**1,039**	**747**	**3,570**	**700**	**1,455**	**1,645**	**1,867**	**333**	**1,458**	**30,629**
Voluntary Labour	**1,230**	**2,170**	**2,889**	**0**	**0**	**0**	**0**	**998**	**1,856**	**1,095**	**0**	**0**	**0**	**747**	**3,570**	**0**	**0**	**0**	**0**	**0**	**0**	**14,555**
Employed or Contract Labour	**0**	**0**	**0**	**1,001**	**1,306**	**1,032**	**1,417**	**0**	**0**	**0**	**1,363**	**1,458**	**1,039**	**0**	**0**	**700**	**1,455**	**1,645**	**1,867**	**333**	**1,458**	**16,074**
Labour Savings (Based on $3/Hour)	**-3,691**	**-6,510**	**-8,668**	**0**	**0**	**0**	**0**	**-2,993**	**-5,569**	**-3,285**	**0**	**0**	**0**	**-2,240**	**-10,710**	**0**	**0**	**0**	**0**	**0**	**0**	**-43,665**
Adjusted Labour Cost ($ USD)	**0**	**0**	**0**	**3,003**	**3,919**	**3,096**	**4,250**	**0**	**0**	**0**	**4,088**	**4,375**	**3,117**	**0**	**0**	**2,100**	**4,364**	**4,935**	**5,600**	**1,000**	**4,375**	**48,222**
Plant Portion (%)	**10%**	**10%**	**10%**	**10%**	**10%**	**0%**	**0%**	**10%**	**10%**	**10%**	**0%**	**0%**	**0%**	**10%**	**10%**	**10%**	**10%**	**10%**	**0%**	**20%**	**0%**	
Plant Cost ($ USD)	**461**	**1,302**	**1,734**	**500**	**653**	**0**	**0**	**374**	**928**	**547**	**0**	**0**	**0**	**320**	**1,530**	**300**	**623**	**705**	**0**	**500**	**0**	**10,479**
Material Portion (%)	**10%**	**40%**	**40%**	**30%**	**30%**	**50%**	**50%**	**10%**	**30%**	**30%**	**50%**	**50%**	**50%**	**20%**	**20%**	**20%**	**20%**	**20%**	**30%**	**40%**	**50%**	
Material Cost ($ USD)	**461**	**5,208**	**6,934**	**1,501**	**1,959**	**3,096**	**4,250**	**374**	**2,784**	**1,642**	**4,088**	**4,375**	**3,117**	**640**	**3,060**	**600**	**1,247**	**1,410**	**2,400**	**1,000**	**4,375**	**54,523**
Adjusted Annualised Maint. Budget ($ USD)	**923**	**6,510**	**8,668**	**5,005**	**6,531**	**6,192**	**8,500**	**748**	**3,713**	**2,190**	**8,175**	**8,750**	**6,235**	**960**	**4,590**	**3,000**	**6,235**	**7,050**	**8,000**	**2,500**	**8,750**	**113,223**
				42,328						**23,576**							**47,319**					

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Ref	Building	Gross Floor Area (GFA) ft2	Gross Floor Area (GFA) m2	External Wall Area (EWA) ft2	External Wall Area (EWA) m2	Roof Area (RA) ft2	Roof Area (RA) m2	Door & Window Area (DWA) ft2	Door & Window Area (DWA) m2	Internal Wall Area (IWA) ft2	Internal Wall Area (IWA) m2
5.00	Pohnpei Campus, Kolonia, Pohnpei State	70,087	6,511	62,069	5,766	83,974	7,801	11,829	1,099	37,100	3,447

Element	Structure							Internal Fit-Out					Services								
Maintenance Task	Building Wash	External Wall Painting	Protective Coatings to Roof	Wall Cladding Repairs	Roof Cladding Repairs	Door & Window Repairs	Misc Repairs	Floor Finishes Cleaning & Repairs	Internal Wall Painting	Ceiling & Soffit Painting	Internal Door Repairs	Misc Repairs	Fire Suppress. Detection & Alarm Systems	Mechanical Ventillation	A/C Systems	Hot Water Generation	Electrical Services	Hydraulic Services	Comm. Systems	Vertical Transport	Misc Repairs	
Unit	ft2	ft2	ft2	ft2	ft2	ft2	LS Allow	ft2	ft2	ft2	No.	LS Allow	ft2	LS Allow	No.	LS Allow	ft2	No.	LS Allow	LS Allow	LS Allow	
Rate/Cost ($ USD)	0.01	0.65	0.93	0.05	0.05	0.25	250.00	0.03	0.56	0.65	25.00	250.00	0.05	100.00	50.00	500.00	0.05	25.00	250.00	2,500.00	250.00	
Frequency (Years)	0.50	5.00	7.00	1.00	1.00	1.00	1.00	1.00	12.00	12.00	1.00	1.00	1.00	1.00	0.50	1.00	1.00	1.00	1.00	1.00	1.00	
Quantity	146,043	62,069	83,974	62,069	83,974	11,829	44	70,087	136,268	81,658	107	44	70,087	20	95	3	70,087	117	41	0	41	
Total Cost Per Occurrence ($ USD)	1,460	40,364	78,014	3,103	4,199	2,957	11,000	2,103	75,958	53,104	2,675	11,000	3,504	2,000	4,750	1,500	3,504	2,925	10,250	0	10,250	**Total**
Annualised Maint. Budget ($ USD)	**2,921**	**8,073**	**11,145**	**3,103**	**4,199**	**2,957**	**11,000**	**2,103**	**6,330**	**4,425**	**2,675**	**11,000**	**3,504**	**2,000**	**9,500**	**1,500**	**3,504**	**2,925**	**10,250**	**0**	**10,250**	**113,364**
				43,398						**26,533**							**43,434**					
Labour Portion (%)	**80%**	**50%**	**50%**	**60%**	**60%**	**50%**	**50%**	**80%**	**60%**	**60%**	**50%**	**50%**	**50%**	**70%**	**70%**	**70%**	**70%**	**70%**	**70%**	**40%**	**50%**	
Labour Cost ($ USD)	**2,337**	**4,036**	**5,572**	**1,862**	**2,519**	**1,479**	**5,500**	**1,682**	**3,798**	**2,655**	**1,338**	**5,500**	**1,752**	**1,400**	**6,650**	**1,050**	**2,453**	**2,048**	**7,175**	**0**	**5,125**	**65,931**
Labour Hours (Based on $3/Hour)	**779**	**1,345**	**1,857**	**621**	**840**	**493**	**1,833**	**561**	**1,266**	**885**	**446**	**1,833**	**584**	**467**	**2,217**	**350**	**818**	**683**	**2,392**	**0**	**1,708**	**21,977**
Voluntary Labour	**779**	**1,345**	**1,857**	**0**	**0**	**0**	**0**	**561**	**1,266**	**885**	**0**	**0**	**0**	**467**	**2,217**	**0**	**0**	**0**	**0**	**0**	**0**	**9,377**
Employed or Contract Labour	**0**	**0**	**0**	**621**	**840**	**493**	**1,833**	**0**	**0**	**0**	**446**	**1,833**	**584**	**0**	**0**	**350**	**818**	**683**	**2,392**	**0**	**1,708**	**12,600**
Labour Savings (Based on $3/Hour)	**-2,337**	**-4,036**	**-5,572**	**0**	**0**	**0**	**0**	**-1,682**	**-3,798**	**-2,655**	**0**	**0**	**0**	**-1,400**	**-6,650**	**0**	**0**	**0**	**0**	**0**	**0**	**-28,131**
Adjusted Labour Cost ($ USD)	**0**	**0**	**0**	**1,862**	**2,519**	**1,479**	**5,500**	**0**	**0**	**0**	**1,338**	**5,500**	**1,752**	**0**	**0**	**1,050**	**2,453**	**2,048**	**7,175**	**0**	**5,125**	**37,800**
Plant Portion (%)	**10%**	**10%**	**10%**	**10%**	**10%**	**0%**	**0%**	**10%**	**10%**	**10%**	**0%**	**0%**	**0%**	**10%**	**10%**	**10%**	**10%**	**10%**	**0%**	**20%**	**0%**	
Plant Cost ($ USD)	**292**	**807**	**1,114**	**310**	**420**	**0**	**0**	**210**	**633**	**443**	**0**	**0**	**0**	**200**	**950**	**150**	**350**	**293**	**0**	**0**	**0**	**6,173**
Material Portion (%)	**10%**	**40%**	**40%**	**30%**	**30%**	**50%**	**50%**	**10%**	**30%**	**30%**	**50%**	**50%**	**50%**	**20%**	**20%**	**20%**	**20%**	**20%**	**30%**	**40%**	**50%**	
Material Cost ($ USD)	**292**	**3,229**	**4,458**	**931**	**1,260**	**1,479**	**5,500**	**210**	**1,899**	**1,328**	**1,338**	**5,500**	**1,752**	**400**	**1,900**	**300**	**701**	**585**	**3,075**	**0**	**5,125**	**41,261**
Adjusted Annualised Maint. Budget ($ USD)	**584**	**4,036**	**5,572**	**3,103**	**4,199**	**2,957**	**11,000**	**421**	**2,532**	**1,770**	**2,675**	**11,000**	**3,504**	**600**	**2,850**	**1,500**	**3,504**	**2,925**	**10,250**	**0**	**10,250**	**85,234**
				31,452						**18,398**							**35,384**					

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **OPTIMISED MAINTENANCE STRATEGY (BUILDINGS)**

Audit Date: June 2013

Revision: 3 - Draft Version Only

		Gross Floor Area (GFA)		External Wall Area (EWA)		Roof Area (RA)		Door & Window Area (DWA)		Internal Wall Area (IWA)	
Ref	**Building**	**ft2**	**m2**	**ft2**	**m2**	**ft2**	**m2**	**ft2**	**m2**	**ft2**	**m2**
6.00	Kosrae Campus, Tofol, Kosrae State	23,401	2,174	22,961	2,133	33,311	3,095	4,569	424	5,159	479

Element	**Structure**							**Internal Fit-Out**					**Services**								
Maintenance Task	Building Wash	External Wall Painting	Protective Coatings to Roof	Wall Cladding Repairs	Roof Cladding Repairs	Door & Window Repairs	Misc Repairs	Floor Finishes Cleaning & Repairs	Internal Wall Painting	Ceiling & Soffit Painting	Internal Door Repairs	Misc Repairs	Fire Suppress. Detection & Alarm Systems	Mechanical Ventillation	A/C Systems	Hot Water Generation	Electrical Services	Hydraulic Services	Comm. Systems	Vertical Transport	Misc Repairs	
Unit	ft2	ft2	ft2	ft2	ft2	ft2	LS Allow	ft2	ft2	ft2	No.	LS Allow	ft2	LS Allow	No.	LS Allow	ft2	No.	LS Allow	LS Allow	LS Allow	
Rate/Cost ($ USD)	0.01	0.65	0.93	0.05	0.05	0.25	250.00	0.03	0.56	0.65	25.00	250.00	0.05	100.00	50.00	500.00	0.05	25.00	250.00	2,500.00	250.00	
Frequency (Years)	0.50	5.00	7.00	1.00	1.00	1.00	1.00	1.00	12.00	12.00	1.00	1.00	1.00	1.00	0.50	1.00	1.00	1.00	1.00	1.00	1.00	
Quantity	56,272	22,961	33,311	22,961	33,311	4,569	12	23,401	33,279	29,439	36	12	23,401	7	37	0	23,401	48	12	0	12	
Total Cost Per Occurrence ($ USD)	563	14,932	30,947	1,148	1,666	1,142	3,000	702	18,550	19,144	900	3,000	1,170	700	1,850	0	1,170	1,200	3,000	0	3,000	**Total**
Annualised Maint. Budget ($ USD)	**1,125**	**2,986**	**4,421**	**1,148**	**1,666**	**1,142**	**3,000**	**702**	**1,546**	**1,595**	**900**	**3,000**	**1,170**	**700**	**3,700**	**0**	**1,170**	**1,200**	**3,000**	**0**	**3,000**	**37,172**
				15,489						**7,743**							**13,940**					
Labour Portion (%)	**80%**	**50%**	**50%**	**60%**	**60%**	**50%**	**50%**	**80%**	**60%**	**60%**	**50%**	**50%**	**50%**	**70%**	**70%**	**70%**	**70%**	**70%**	**70%**	**40%**	**50%**	
Labour Cost ($ USD)	**900**	**1,493**	**2,210**	**689**	**999**	**571**	**1,500**	**562**	**928**	**957**	**450**	**1,500**	**585**	**490**	**2,590**	**0**	**819**	**840**	**2,100**	**0**	**1,500**	**21,684**
Labour Hours (Based on $3/Hour)	**300**	**498**	**737**	**230**	**333**	**190**	**500**	**187**	**309**	**319**	**150**	**500**	**195**	**163**	**863**	**0**	**273**	**280**	**700**	**0**	**500**	**7,228**
Voluntary Labour	**300**	**498**	**737**	**0**	**0**	**0**	**0**	**187**	**309**	**319**	**0**	**0**	**0**	**163**	**863**	**0**	**0**	**0**	**0**	**0**	**0**	**3,377**
Employed or Contract Labour	**0**	**0**	**0**	**230**	**333**	**190**	**500**	**0**	**0**	**0**	**150**	**500**	**195**	**0**	**0**	**0**	**273**	**280**	**700**	**0**	**500**	**3,851**
Labour Savings (Based on $3/Hour)	**-900**	**-1,493**	**-2,210**	**0**	**0**	**0**	**0**	**-562**	**-928**	**-957**	**0**	**0**	**0**	**-490**	**-2,590**	**0**	**0**	**0**	**0**	**0**	**0**	**-10,130**
Adjusted Labour Cost ($ USD)	**0**	**0**	**0**	**689**	**999**	**571**	**1,500**	**0**	**0**	**0**	**450**	**1,500**	**585**	**0**	**0**	**0**	**819**	**840**	**2,100**	**0**	**1,500**	**11,553**
Plant Portion (%)	**10%**	**10%**	**10%**	**10%**	**10%**	**0%**	**0%**	**10%**	**10%**	**10%**	**0%**	**0%**	**0%**	**10%**	**10%**	**10%**	**10%**	**10%**	**0%**	**20%**	**0%**	
Plant Cost ($ USD)	**113**	**299**	**442**	**115**	**167**	**0**	**0**	**70**	**155**	**160**	**0**	**0**	**0**	**70**	**370**	**0**	**117**	**120**	**0**	**0**	**0**	**2,196**
Material Portion (%)	**10%**	**40%**	**40%**	**30%**	**30%**	**50%**	**50%**	**10%**	**30%**	**30%**	**50%**	**50%**	**50%**	**20%**	**20%**	**20%**	**20%**	**20%**	**30%**	**40%**	**50%**	
Material Cost ($ USD)	**113**	**1,195**	**1,768**	**344**	**500**	**571**	**1,500**	**70**	**464**	**479**	**450**	**1,500**	**585**	**140**	**740**	**0**	**234**	**240**	**900**	**0**	**1,500**	**13,292**
Adjusted Annualised Maint. Budget ($ USD)	**225**	**1,493**	**2,210**	**1,148**	**1,666**	**1,142**	**3,000**	**140**	**618**	**638**	**900**	**3,000**	**1,170**	**210**	**1,110**	**0**	**1,170**	**1,200**	**3,000**	**0**	**3,000**	**27,042**
				10,885						**5,297**							**10,860**					

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **OPTIMISED MAINTENANCE STRATEGY (SITE INFRASTRUCTURE)**

Audit Date: June 2013

Revision: 3 - Draft Version Only

Ref	Location	Total Buildings No.	Total Building Area ft2	Total Building Area m2	Total Hard Surface Areas ft2	Total Hard Surface Areas m2	Total Green Surface Areas ft2	Total Green Surface Areas m2	Site Area ft2	Site Area m2
1.00	Yap Campus, Ruul, Yap State	9	23,213	2,157	15,426	1,433	266,283	24,738	304,923	28,328
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	6	22,374	2,079	6,052	562	1,541,891	143,245	1,570,317	145,886
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	11	21,371	1,985	9,288	863	59,747	5,551	90,407	8,399
4.00	National Campus, Palikir, Pohnpei State	15	124,691	11,584	323,488	30,053	2,853,895	265,133	3,177,382	295,186
5.00	Pohnpei Campus, Kolonia, Pohnpei State	17	70,087	6,511	86,161	8,005	644,456	59,871	730,617	67,876
6.00	Kosrae Campus, Tofol, Kosrae State	11	23,401	2,174	42,718	3,969	344,086	31,966	410,205	38,109

Maintenance Element	Grounds Keeping	Car Parks, Roads & Pavements	Fences & Gates	Structures	Site Drainage	Electrical Infrastructure	Water Services	Site Furniture	Telecom Services	
OPT1 - Total - Fully Employed Labour Regime Only	3,799	1,457	900	565	1,900	1,900	225	1,000	225	11,971
OPT2 - Total - Combined Employed & Voluntary Labour Regime	1,801	1,457	620	402	1,900	1,900	225	1,000	225	9,531
Total - Cost Saving	(1,997)	0	(280)	(162)	0	0	0	0	0	(2,440)
Total - Voluntary Labour Required (Hours)	666	0	93	54	0	0	0	0	0	813
OPT1 - Total - Fully Employed Labour Regime Only	4,756	3,903	500	643	1,600	1,600	150	1,000	150	14,302
OPT2 - Total - Combined Employed & Voluntary Labour Regime	2,576	3,903	500	433	1,600	1,600	150	1,000	150	11,912
Total - Cost Saving	(2,180)	0	0	(211)	0	0	0	0	0	(2,390)
Total - Voluntary Labour Required (Hours)	727	0	0	70	0	0	0	0	0	797
OPT1 - Total - Fully Employed Labour Regime Only	2,791	1,726	900	498	2,100	2,100	275	1,000	275	11,666
OPT2 - Total - Combined Employed & Voluntary Labour Regime	986	1,726	620	377	2,100	2,100	275	1,000	275	9,459
Total - Cost Saving	(1,806)	0	(280)	(122)	0	0	0	0	0	(2,207)
Total - Voluntary Labour Required (Hours)	602	0	93	41	0	0	0	0	0	736
OPT1 - Total - Fully Employed Labour Regime Only	18,919	19,336	1,800	3,734	2,500	2,500	375	1,000	375	50,539
OPT2 - Total - Combined Employed & Voluntary Labour Regime	12,768	19,336	1,240	2,057	2,500	2,500	375	1,000	375	42,151
Total - Cost Saving	(6,151)	0	(560)	(1,677)	0	0	0	0	0	(8,388)
Total - Voluntary Labour Required (Hours)	2,050	0	187	559	0	0	0	0	0	2,796
OPT1 - Total - Fully Employed Labour Regime Only	8,143	16,228	1,800	2,795	3,700	2,700	425	2,000	425	38,216
OPT2 - Total - Combined Employed & Voluntary Labour Regime	4,045	16,228	1,240	2,121	3,700	2,700	425	2,000	425	32,883
Total - Cost Saving	(4,099)	0	(560)	(674)	0	0	0	0	0	(5,332)
Total - Voluntary Labour Required (Hours)	1,366	0	187	225	0	0	0	0	0	1,777
OPT1 - Total - Fully Employed Labour Regime Only	4,178	7,352	1,400	1,264	2,100	2,100	275	1,000	275	19,944
OPT2 - Total - Combined Employed & Voluntary Labour Regime	2,109	7,352	1,120	672	2,100	2,100	275	1,000	275	17,002
Total - Cost Saving	(2,070)	0	(280)	(592)	0	0	0	0	0	(2,942)
Total - Voluntary Labour Required (Hours)	690	0	93	197	0	0	0	0	0	981
OPT1 - Grand Total - Fully Employed Labour Regime Only	42,587	50,001	7,300	9,499	13,900	12,900	1,725	7,000	1,725	146,638
OPT2 - Grand Total - Combined Employed & Voluntary Labour Regime	24,285	50,001	5,340	6,062	13,900	12,900	1,725	7,000	1,725	122,938
Grand Total - Cost Saving	(18,302)	0	(1,960)	(3,437)	0	0	0	0	0	(23,700)
Grand Total - Voluntary Labour Required (Hours)	6,101	0	653	1,146	0	0	0	0	0	7,900
Cost Saving as %	75%	0%	37%	57%	0%	0%	0%	0%	0%	19%

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **OPTIMISED MAINTENANCE STRATEGY (SITE INFRASTRUCTURE)**

Audit Date: June 2013

Revision: 3 - Draft Version Only

Ref	Location	Total Buildings No.	Total Building Area ft2	Total Building Area m2	Total Hard Surface Areas ft2	Total Hard Surface Areas m2	Total Green Surface Areas ft2	Total Green Surface Areas m2	Site Area ft2	Site Area m2
1.00	Yap Campus, Ruul, Yap State	9	23,213	2,157	15,426	1,433	266,283	24,738	304,923	28,328

Element	Grounds Keeping				Car Parks, Roads & Pavements			Fences & Gates		Structures			Site Drainage			Electrical Infrastructure		Water Services	Site Furniture	Telecom Services	
Maintenance Task	Mowing	Spraying	General Grounds Keeping	Pruning & General Tree Maint.	Regrade, Relevel & Compact Gravel Surface	Pot/Crack Fill Asphalt Surface	Pot/Crack Fill Concrete Surface	Repaint Fences & Gates	Fence & Gate Repairs	Minor Building Structures Wash	Minor Building Structures General Repairs	Minor Building Structures Repaint	Site Stormwater Drainage Maint.	Building Stormwater Drainage Maint.	Building Sewer Drainage Maint.	General Electrical Maint.	General Electrical Servicing	General Water Services Maint.	General Site Furniture Maint.	General Telecom Services	
Unit	LS Allow / Green Area	LS Allow / Green Area	LS Allow / Green Area	LS Allow.	LS Allow / Area	LS Allow / Area	LS Allow / Area	LS Allow.	LS Allow.	LS Allow / GFA	LS Allow / Building No	LS Allow / GFA	LS Allow.	LS Allow / Building	LS Allow / Building	LS Allow / Building	LS Allow	LS Allow / Building	LS Allow.	LS Allow / Building	
Rate/Cost ($ USD)	0.00023	0.00012	0.00046	2,500.00	0.28	0.05	0.05	2,000.00	500.00	0.01	100.00	0.65	1,000.00	50.00	50.00	100.00	1,000.00	25.00	1,000.00	25.00	
Frequency (Years)	0.08	0.50	0.25	1.00	1.00	1.00	1.00	5.00	1.00	0.50	1.00	5.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Quantity	266,283	266,283	266,283	1	2,460	9,872	5,554	1	1	1,765	3	1,765	1	9	9	9	1	9	1	9	
Total Cost Per Occurrence ($ USD)	62	31	124	2,500	686	494	278	2,000	500	18	300	1,148	1,000	450	450	900	1,000	225	1,000	225	**Total**
Annualised Maint. Budget ($ USD)	**742**	**62**	**495**	**2,500**	**686**	**494**	**278**	**400**	**500**	**35**	**300**	**230**	**1,000**	**450**	**450**	**900**	**1,000**	**225**	**1,000**	**225**	**11,971**
	3,799				**1,457**			**900**		**565**			**1,900**			**1,900**		**225**	**1,000**	**225**	
Labour Portion (%)	**70%**	**35%**	**50%**	**70%**	**30%**	**30%**	**30%**	**70%**	**80%**	**70%**	**50%**	**60%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	
Labour Cost ($ USD)	**520**	**22**	**247**	**1,750**	**206**	**148**	**83**	**280**	**400**	**25**	**150**	**138**	**500**	**225**	**225**	**450**	**500**	**113**	**500**	**113**	**6,593**
Labour Hours (Based on $3/Hour)	**173**	**7**	**82**	**583**	**69**	**49**	**28**	**93**	**133**	**8**	**50**	**46**	**167**	**75**	**75**	**150**	**167**	**38**	**167**	**38**	**2,198**
Voluntary Labour	**0**	**0**	**82**	**583**	**0**	**0**	**0**	**93**	**0**	**8**	**0**	**46**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**813**
Employed or Contract Labour	**173**	**7**	**0**	**0**	**69**	**49**	**28**	**0**	**133**	**0**	**50**	**0**	**167**	**75**	**75**	**150**	**167**	**38**	**167**	**38**	**1,384**
Labour Savings (Based on $3/Hour)	**0**	**0**	**-247**	**-1,750**	**0**	**0**	**0**	**-280**	**0**	**-25**	**0**	**-138**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-2,440**
Adjusted Labour Cost ($ USD)	**520**	**22**	**0**	**0**	**206**	**148**	**83**	**0**	**400**	**0**	**150**	**0**	**500**	**225**	**225**	**450**	**500**	**113**	**500**	**113**	**4,153**
Plant Portion (%)	**30%**	**30%**	**25%**	**30%**	**50%**	**50%**	**50%**	**0%**	**0%**	**20%**	**20%**	**10%**	**30%**	**30%**	**30%**	**30%**	**30%**	**30%**	**0%**	**30%**	
Plant Cost ($ USD)	**223**	**19**	**124**	**750**	**343**	**247**	**139**	**0**	**0**	**7**	**60**	**23**	**300**	**135**	**135**	**270**	**300**	**68**	**0**	**68**	**3,208**
Material Portion (%)	**0%**	**35%**	**25%**	**0%**	**20%**	**20%**	**20%**	**30%**	**20%**	**10%**	**30%**	**30%**	**20%**	**20%**	**20%**	**20%**	**20%**	**20%**	**50%**	**20%**	
Material Cost ($ USD)	**0**	**22**	**124**	**0**	**137**	**99**	**56**	**120**	**100**	**4**	**90**	**69**	**200**	**90**	**90**	**180**	**200**	**45**	**500**	**45**	**2,169**
Adjusted Annualised Maint. Budget ($ USD)	**742**	**62**	**247**	**750**	**686**	**494**	**278**	**120**	**500**	**11**	**300**	**92**	**1,000**	**450**	**450**	**900**	**1,000**	**225**	**1,000**	**225**	**9,531**
	1,801				**1,457**			**620**		**402**			**1,900**			**1,900**		**225**	**1,000**	**225**	

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **OPTIMISED MAINTENANCE STRATEGY (SITE INFRASTRUCTURE)**

Audit Date: June 2013

Revision: 3 - Draft Version Only

Ref	Location	Total Buildings No.	Total Building Area ft2	Total Building Area m2	Total Hard Surface Areas ft2	Total Hard Surface Areas m2	Total Green Surface Areas ft2	Total Green Surface Areas m2	Site Area ft2	Site Area m2
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	6	22,374	2,079	6,052	562	1,541,891	143,245	1,570,317	145,886

Element	Grounds Keeping				Car Parks, Roads & Pavements			Fences & Gates		Structures			Site Drainage			Electrical Infrastructure		Water Services	Site Furniture	Telecom Services	
Maintenance Task	Mowing	Spraying	General Grounds Keeping	Pruning & General Tree Maint.	Regrade, Relevel & Compact Gravel Surface	Pot/Crack Fill Asphalt Surface	Pot/Crack Fill Concrete Surface	Repaint Fences & Gates	Fence & Gate Repairs	Minor Building Structures Wash	Minor Building Structures General Repairs	Minor Building Structures Repaint	Site Stormwater Drainage Maint.	Building Stormwater Drainage Maint.	Building Sewer Drainage Maint.	General Electrical Maint.	General Electrical Servicing	General Water Services Maint.	General Site Furniture Maint.	General Telecom Services	
Unit	LS Allow / Green Area	LS Allow / Green Area	LS Allow / Green Area	LS Allow.	LS Allow / Area	LS Allow / Area	LS Allow / Area	LS Allow.	LS Allow.	LS Allow / GFA	LS Allow / Building No	LS Allow / GFA	LS Allow.	LS Allow / Building	LS Allow / Building	LS Allow / Building	LS Allow	LS Allow / Building	LS Allow.	LS Allow / Building	
Rate/Cost ($ USD)	0.00023	0.00012	0.00046	2,500.00	0.28	0.05	0.05	2,000.00	500.00	0.01	100.00	0.65	1,000.00	50.00	50.00	100.00	1,000.00	25.00	1,000.00	25.00	
Frequency (Years)	0.08	0.50	0.25	1.00	1.00	1.00	1.00	5.00	1.00	0.50	1.00	5.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Quantity	462,567	462,567	462,567	1	12,917	0	6,052	0	1	2,289	3	2,289	1	6	6	6	1	6	1	6	
Total Cost Per Occurrence ($ USD)	107	54	215	2,500	3,600	0	303	0	500	23	300	1,488	1,000	300	300	600	1,000	150	1,000	150	**Total**
Annualised Maint. Budget ($ USD)	**1,289**	**107**	**859**	**2,500**	**3,600**	**0**	**303**	**0**	**500**	**46**	**300**	**298**	**1,000**	**300**	**300**	**600**	**1,000**	**150**	**1,000**	**150**	**14,302**
	4,756				**3,903**			**500**		**643**			**1,600**			**1,600**		**150**	**1,000**	**150**	
Labour Portion (%)	**70%**	**35%**	**50%**	**70%**	**30%**	**30%**	**30%**	**70%**	**80%**	**70%**	**50%**	**60%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	
Labour Cost ($ USD)	**902**	**38**	**430**	**1,750**	**1,080**	**0**	**91**	**0**	**400**	**32**	**150**	**179**	**500**	**150**	**150**	**300**	**500**	**75**	**500**	**75**	**7,301**
Labour Hours (Based on $3/Hour)	**301**	**13**	**143**	**583**	**360**	**0**	**30**	**0**	**133**	**11**	**50**	**60**	**167**	**50**	**50**	**100**	**167**	**25**	**167**	**25**	**2,434**
Voluntary Labour	**0**	**0**	**143**	**583**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**60**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**797**
Employed or Contract Labour	**301**	**13**	**0**	**0**	**360**	**0**	**30**	**0**	**133**	**0**	**50**	**0**	**167**	**50**	**50**	**100**	**167**	**25**	**167**	**25**	**1,637**
Labour Savings (Based on $3/Hour)	**0**	**0**	**-430**	**-1,750**	**0**	**0**	**0**	**0**	**0**	**-32**	**0**	**-179**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-2,390**
Adjusted Labour Cost ($ USD)	**902**	**38**	**0**	**0**	**1,080**	**0**	**91**	**0**	**400**	**0**	**150**	**0**	**500**	**150**	**150**	**300**	**500**	**75**	**500**	**75**	**4,911**
Plant Portion (%)	**30%**	**30%**	**25%**	**30%**	**50%**	**50%**	**50%**	**0%**	**0%**	**20%**	**20%**	**10%**	**30%**	**30%**	**30%**	**30%**	**30%**	**30%**	**0%**	**30%**	
Plant Cost ($ USD)	**387**	**32**	**215**	**750**	**1,800**	**0**	**151**	**0**	**0**	**9**	**60**	**30**	**300**	**90**	**90**	**180**	**300**	**45**	**0**	**45**	**4,484**
Material Portion (%)	**0%**	**35%**	**25%**	**0%**	**20%**	**20%**	**20%**	**30%**	**20%**	**10%**	**30%**	**30%**	**20%**	**20%**	**20%**	**20%**	**20%**	**20%**	**50%**	**20%**	
Material Cost ($ USD)	**0**	**38**	**215**	**0**	**720**	**0**	**61**	**0**	**100**	**5**	**90**	**89**	**200**	**60**	**60**	**120**	**200**	**30**	**500**	**30**	**2,517**
Adjusted Annualised Maint. Budget ($ USD)	**1,289**	**107**	**430**	**750**	**3,600**	**0**	**303**	**0**	**500**	**14**	**300**	**119**	**1,000**	**300**	**300**	**600**	**1,000**	**150**	**1,000**	**150**	**11,912**
	2,576				**3,903**			**500**		**433**			**1,600**			**1,600**		**150**	**1,000**	**150**	

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **OPTIMISED MAINTENANCE STRATEGY (SITE INFRASTRUCTURE)**

Audit Date: June 2013

Revision: 3 - Draft Version Only

Ref	Location	Total Buildings No.	Total Building Area ft2	Total Building Area m2	Total Hard Surface Areas ft2	Total Hard Surface Areas m2	Total Green Surface Areas ft2	Total Green Surface Areas m2	Site Area ft2	Site Area m2
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	11	21,371	1,985	9,288	863	59,747	5,551	90,407	8,399

Element	Grounds Keeping				Car Parks, Roads & Pavements			Fences & Gates		Structures			Site Drainage			Electrical Infrastructure		Water Services	Site Furniture	Telecom Services	
Maintenance Task	Mowing	Spraying	General Grounds Keeping	Pruning & General Tree Maint.	Regrade, Relevel & Compact Gravel Surface	Pot/Crack Fill Asphalt Surface	Pot/Crack Fill Concrete Surface	Repaint Fences & Gates	Fence & Gate Repairs	Minor Building Structures Wash	Minor Building Structures General Repairs	Minor Building Structures Repaint	Site Stormwater Drainage Maint.	Building Stormwater Drainage Maint.	Building Sewer Drainage Maint.	General Electrical Maint.	General Electrical Servicing	General Water Services Maint.	General Site Furniture Maint.	General Telecom Services	
Unit	LS Allow / Green Area	LS Allow / Green Area	LS Allow / Green Area	LS Allow.	LS Allow / Area	LS Allow / Area	LS Allow / Area	LS Allow.	LS Allow.	LS Allow / GFA	LS Allow / Building No	LS Allow / GFA	LS Allow.	LS Allow / Building	LS Allow / Building	LS Allow / Building	LS Allow	LS Allow / Building	LS Allow.	LS Allow / Building	
Rate/Cost ($ USD)	0.00023	0.00012	0.00046	2,500.00	0.28	0.05	0.05	2,000.00	500.00	0.01	100.00	0.65	1,000.00	50.00	50.00	100.00	1,000.00	25.00	1,000.00	25.00	
Frequency (Years)	0.08	0.50	0.25	1.00	1.00	1.00	1.00	5.00	1.00	0.50	1.00	5.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Quantity	59,747	59,747	59,747	1	5,517	0	3,772	1	1	1,322	3	1,322	1	11	11	11	1	11	1	11	
Total Cost Per Occurrence ($ USD)	14	7	28	2,500	1,538	0	189	2,000	500	13	300	859	1,000	550	550	1,100	1,000	275	1,000	275	**Total**
Annualised Maint. Budget ($ USD)	**167**	**14**	**111**	**2,500**	**1,538**	**0**	**189**	**400**	**500**	**26**	**300**	**172**	**1,000**	**550**	**550**	**1,100**	**1,000**	**275**	**1,000**	**275**	**11,666**
	2,791				**1,726**			**900**		**498**			**2,100**			**2,100**		**275**	**1,000**	**275**	
Labour Portion (%)	**70%**	**35%**	**50%**	**70%**	**30%**	**30%**	**30%**	**70%**	**80%**	**70%**	**50%**	**60%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	
Labour Cost ($ USD)	**117**	**5**	**56**	**1,750**	**461**	**0**	**57**	**280**	**400**	**19**	**150**	**103**	**500**	**275**	**275**	**550**	**500**	**138**	**500**	**138**	**6,271**
Labour Hours (Based on $3/Hour)	**39**	**2**	**19**	**583**	**154**	**0**	**19**	**93**	**133**	**6**	**50**	**34**	**167**	**92**	**92**	**183**	**167**	**46**	**167**	**46**	**2,090**
Voluntary Labour	**0**	**0**	**19**	**583**	**0**	**0**	**0**	**93**	**0**	**6**	**0**	**34**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**736**
Employed or Contract Labour	**39**	**2**	**0**	**0**	**154**	**0**	**19**	**0**	**133**	**0**	**50**	**0**	**167**	**92**	**92**	**183**	**167**	**46**	**167**	**46**	**1,355**
Labour Savings (Based on $3/Hour)	**0**	**0**	**-56**	**-1,750**	**0**	**0**	**0**	**-280**	**0**	**-19**	**0**	**-103**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-2,207**
Adjusted Labour Cost ($ USD)	**117**	**5**	**0**	**0**	**461**	**0**	**57**	**0**	**400**	**0**	**150**	**0**	**500**	**275**	**275**	**550**	**500**	**138**	**500**	**138**	**4,064**
Plant Portion (%)	**30%**	**30%**	**25%**	**30%**	**50%**	**50%**	**50%**	**0%**	**0%**	**20%**	**20%**	**10%**	**30%**	**30%**	**30%**	**30%**	**30%**	**30%**	**0%**	**30%**	
Plant Cost ($ USD)	**50**	**4**	**28**	**750**	**769**	**0**	**94**	**0**	**0**	**5**	**60**	**17**	**300**	**165**	**165**	**330**	**300**	**83**	**0**	**83**	**3,202**
Material Portion (%)	**0%**	**35%**	**25%**	**0%**	**20%**	**20%**	**20%**	**30%**	**20%**	**10%**	**30%**	**30%**	**20%**	**20%**	**20%**	**20%**	**20%**	**20%**	**50%**	**20%**	
Material Cost ($ USD)	**0**	**5**	**28**	**0**	**308**	**0**	**38**	**120**	**100**	**3**	**90**	**52**	**200**	**110**	**110**	**220**	**200**	**55**	**500**	**55**	**2,192**
Adjusted Annualised Maint. Budget ($ USD)	**167**	**14**	**56**	**750**	**1,538**	**0**	**189**	**120**	**500**	**8**	**300**	**69**	**1,000**	**550**	**550**	**1,100**	**1,000**	**275**	**1,000**	**275**	**9,459**
	986				**1,726**			**620**		**377**			**2,100**			**2,100**		**275**	**1,000**	**275**	

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Audit Date: June 2013

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Ref	Location	Total Buildings No.	Total Building Area ft2	Total Building Area m2	Total Hard Surface Areas ft2	Total Hard Surface Areas m2	Total Green Surface Areas ft2	Total Green Surface Areas m2	Site Area ft2	Site Area m2
4.00	National Campus, Palikir, Pohnpei State	15	124,691	11,584	323,488	30,053	2,853,895	265,133	3,177,382	295,186

Element	Grounds Keeping				Car Parks, Roads & Pavements			Fences & Gates		Structures			Site Drainage			Electrical Infrastructure		Water Services	Site Furniture	Telecom Services	
Maintenance Task	Mowing	Spraying	General Grounds Keeping	Pruning & General Tree Maint.	Regrade, Relevel & Compact Gravel Surface	Pot/Crack Fill Asphalt Surface	Pot/Crack Fill Concrete Surface	Repaint Fences & Gates	Fence & Gate Repairs	Minor Building Structures Wash	Minor Building Structures General Repairs	Minor Building Structures Repaint	Site Stormwater Drainage Maint.	Building Stormwater Drainage Maint.	Building Sewer Drainage Maint.	General Electrical Maint.	General Electrical Servicing	General Water Services Maint.	General Site Furniture Maint.	General Telecom Services	
Unit	LS Allow / Green Area	LS Allow / Green Area	LS Allow / Green Area	LS Allow.	LS Allow / Area	LS Allow / Area	LS Allow / Area	LS Allow.	LS Allow.	LS Allow / GFA	LS Allow / Building No	LS Allow / GFA	LS Allow.	LS Allow / Building	LS Allow / Building	LS Allow / Building	LS Allow	LS Allow / Building	LS Allow.	LS Allow / Building	
Rate/Cost ($ USD)	0.00023	0.00012	0.00046	2,500.00	0.28	0.05	0.05	2,000.00	500.00	0.01	100.00	0.65	1,000.00	50.00	50.00	100.00	1,000.00	25.00	1,000.00	25.00	
Frequency (Years)	0.08	0.50	0.25	1.00	1.00	1.00	1.00	5.00	1.00	0.50	1.00	5.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Quantity	2,853,895	2,853,895	2,853,895	2	17,590	172,632	116,033	2	2	18,219	10	18,219	1	15	15	15	1	15	1	15	
Total Cost Per Occurrence ($ USD)	663	331	1,326	5,000	4,903	8,632	5,802	4,000	1,000	182	1,000	11,848	1,000	750	750	1,500	1,000	375	1,000	375	**Total**
Annualised Maint. Budget ($ USD)	**7,954**	**663**	**5,303**	**5,000**	**4,903**	**8,632**	**5,802**	**800**	**1,000**	**364**	**1,000**	**2,370**	**1,000**	**750**	**750**	**1,500**	**1,000**	**375**	**1,000**	**375**	**50,539**
	18,919				**19,336**			**1,800**		**3,734**			**2,500**			**2,500**		**375**	**1,000**	**375**	
Labour Portion (%)	**70%**	**35%**	**50%**	**70%**	**30%**	**30%**	**30%**	**70%**	**80%**	**70%**	**50%**	**60%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	
Labour Cost ($ USD)	**5,568**	**232**	**2,651**	**3,500**	**1,471**	**2,589**	**1,740**	**560**	**800**	**255**	**500**	**1,422**	**500**	**375**	**375**	**750**	**500**	**188**	**500**	**188**	**24,664**
Labour Hours (Based on $3/Hour)	**1,856**	**77**	**884**	**1,167**	**490**	**863**	**580**	**187**	**267**	**85**	**167**	**474**	**167**	**125**	**125**	**250**	**167**	**63**	**167**	**63**	**8,221**
Voluntary Labour	**0**	**0**	**884**	**1,167**	**0**	**0**	**0**	**187**	**0**	**85**	**0**	**474**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,796**
Employed or Contract Labour	**1,856**	**77**	**0**	**0**	**490**	**863**	**580**	**0**	**267**	**0**	**167**	**0**	**167**	**125**	**125**	**250**	**167**	**63**	**167**	**63**	**5,425**
Labour Savings (Based on $3/Hour)	**0**	**0**	**-2,651**	**-3,500**	**0**	**0**	**0**	**-560**	**0**	**-255**	**0**	**-1,422**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-8,388**
Adjusted Labour Cost ($ USD)	**5,568**	**232**	**0**	**0**	**1,471**	**2,589**	**1,740**	**0**	**800**	**0**	**500**	**0**	**500**	**375**	**375**	**750**	**500**	**188**	**500**	**188**	**16,276**
Plant Portion (%)	**30%**	**30%**	**25%**	**30%**	**50%**	**50%**	**50%**	**0%**	**0%**	**20%**	**20%**	**10%**	**30%**	**30%**	**30%**	**30%**	**30%**	**30%**	**0%**	**30%**	
Plant Cost ($ USD)	**2,386**	**199**	**1,326**	**1,500**	**2,451**	**4,316**	**2,901**	**0**	**0**	**73**	**200**	**237**	**300**	**225**	**225**	**450**	**300**	**113**	**0**	**113**	**17,313**
Material Portion (%)	**0%**	**35%**	**25%**	**0%**	**20%**	**20%**	**20%**	**30%**	**20%**	**10%**	**30%**	**30%**	**20%**	**20%**	**20%**	**20%**	**20%**	**20%**	**50%**	**20%**	
Material Cost ($ USD)	**0**	**232**	**1,326**	**0**	**981**	**1,726**	**1,160**	**240**	**200**	**36**	**300**	**711**	**200**	**150**	**150**	**300**	**200**	**75**	**500**	**75**	**8,562**
Adjusted Annualised Maint. Budget ($ USD)	**7,954**	**663**	**2,651**	**1,500**	**4,903**	**8,632**	**5,802**	**240**	**1,000**	**109**	**1,000**	**948**	**1,000**	**750**	**750**	**1,500**	**1,000**	**375**	**1,000**	**375**	**42,151**
	12,768				**19,336**			**1,240**		**2,057**			**2,500**			**2,500**		**375**	**1,000**	**375**	

Project: **COLLEGE OF MICRONESIA - FSM**

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Ref	Location	Total Buildings No.	Total Building Area ft2	Total Building Area m2	Total Hard Surface Areas ft2	Total Hard Surface Areas m2	Total Green Surface Areas ft2	Total Green Surface Areas m2	Site Area ft2	Site Area m2
5.00	Pohnpei Campus, Kolonia, Pohnpei State	17	70,087	6,511	86,161	8,005	644,456	59,871	730,617	67,876

Element	Grounds Keeping				Car Parks, Roads & Pavements			Fences & Gates		Structures			Site Drainage			Electrical Infrastructure		Water Services	Site Furniture	Telecom Services	
Maintenance Task	Mowing	Spraying	General Grounds Keeping	Pruning & General Tree Maint.	Regrade, Relevel & Compact Gravel Surface	Pot/Crack Fill Asphalt Surface	Pot/Crack Fill Concrete Surface	Repaint Fences & Gates	Fence & Gate Repairs	Minor Building Structures Wash	Minor Building Structures General Repairs	Minor Building Structures Repaint	Site Stormwater Drainage Maint.	Building Stormwater Drainage Maint.	Building Sewer Drainage Maint.	General Electrical Maint.	General Electrical Servicing	General Water Services Maint.	General Site Furniture Maint.	General Telecom Services	
Unit	LS Allow / Green Area	LS Allow / Green Area	LS Allow / Green Area	LS Allow.	LS Allow / Area	LS Allow / Area	LS Allow / Area	LS Allow.	LS Allow.	LS Allow / GFA	LS Allow / Building No	LS Allow / GFA	LS Allow.	LS Allow / Building	LS Allow / Building	LS Allow / Building	LS Allow	LS Allow / Building	LS Allow.	LS Allow / Building	
Rate/Cost ($ USD)	0.00023	0.00012	0.00046	2,500.00	0.28	0.05	0.05	2,000.00	500.00	0.01	100.00	0.65	1,000.00	50.00	50.00	100.00	1,000.00	25.00	1,000.00	25.00	
Frequency (Years)	0.08	0.50	0.25	1.00	1.00	1.00	1.00	5.00	1.00	0.50	1.00	5.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Quantity	644,456	644,456	644,456	2	53,975	0	23,687	2	2	8,388	17	7,129	2	17	17	17	1	17	2	17	
Total Cost Per Occurrence ($ USD)	150	75	299	5,000	15,043	0	1,184	4,000	1,000	84	1,700	4,636	2,000	850	850	1,700	1,000	425	2,000	425	Total
Annualised Maint. Budget ($ USD)	**1,796**	**150**	**1,197**	**5,000**	**15,043**	**0**	**1,184**	**800**	**1,000**	**168**	**1,700**	**927**	**2,000**	**850**	**850**	**1,700**	**1,000**	**425**	**2,000**	**425**	**38,216**
	8,143				**16,228**			**1,800**		**2,795**			**3,700**			**2,700**		**425**	**2,000**	**425**	
Labour Portion (%)	**70%**	**35%**	**50%**	**70%**	**30%**	**30%**	**30%**	**70%**	**80%**	**70%**	**50%**	**60%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	
Labour Cost ($ USD)	**1,257**	**52**	**599**	**3,500**	**4,513**	**0**	**355**	**560**	**800**	**117**	**850**	**556**	**1,000**	**425**	**425**	**850**	**500**	**213**	**1,000**	**213**	**17,785**
Labour Hours (Based on $3/Hour)	**419**	**17**	**200**	**1,167**	**1,504**	**0**	**118**	**187**	**267**	**39**	**283**	**185**	**333**	**142**	**142**	**283**	**167**	**71**	**333**	**71**	**5,928**
Voluntary Labour	**0**	**0**	**200**	**1,167**	**0**	**0**	**0**	**187**	**0**	**39**	**0**	**185**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,777**
Employed or Contract Labour	**419**	**17**	**0**	**0**	**1,504**	**0**	**118**	**0**	**267**	**0**	**283**	**0**	**333**	**142**	**142**	**283**	**167**	**71**	**333**	**71**	**4,151**
Labour Savings (Based on $3/Hour)	**0**	**0**	**-599**	**-3,500**	**0**	**0**	**0**	**-560**	**0**	**-117**	**0**	**-556**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-5,332**
Adjusted Labour Cost ($ USD)	**1,257**	**52**	**0**	**0**	**4,513**	**0**	**355**	**0**	**800**	**0**	**850**	**0**	**1,000**	**425**	**425**	**850**	**500**	**213**	**1,000**	**213**	**12,453**
Plant Portion (%)	**30%**	**30%**	**25%**	**30%**	**50%**	**50%**	**50%**	**0%**	**0%**	**20%**	**20%**	**10%**	**30%**	**30%**	**30%**	**30%**	**30%**	**30%**	**0%**	**30%**	
Plant Cost ($ USD)	**539**	**45**	**299**	**1,500**	**7,522**	**0**	**592**	**0**	**0**	**34**	**340**	**93**	**600**	**255**	**255**	**510**	**300**	**128**	**0**	**128**	**13,138**
Material Portion (%)	**0%**	**35%**	**25%**	**0%**	**20%**	**20%**	**20%**	**30%**	**20%**	**10%**	**30%**	**30%**	**20%**	**20%**	**20%**	**20%**	**20%**	**20%**	**50%**	**20%**	
Material Cost ($ USD)	**0**	**52**	**299**	**0**	**3,009**	**0**	**237**	**240**	**200**	**17**	**510**	**278**	**400**	**170**	**170**	**340**	**200**	**85**	**1,000**	**85**	**7,292**
Adjusted Annualised Maint. Budget ($ USD)	**1,796**	**150**	**599**	**1,500**	**15,043**	**0**	**1,184**	**240**	**1,000**	**50**	**1,700**	**371**	**2,000**	**850**	**850**	**1,700**	**1,000**	**425**	**2,000**	**425**	**32,883**
	4,045				**16,228**			**1,240**		**2,121**			**3,700**			**2,700**		**425**	**2,000**	**425**	

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **OPTIMISED MAINTENANCE STRATEGY (SITE INFRASTRUCTURE)**

Audit Date: June 2013

Revision: 3 - Draft Version Only

Ref	Location	Total Buildings No.	Total Building Area ft2	Total Building Area m2	Total Hard Surface Areas ft2	Total Hard Surface Areas m2	Total Green Surface Areas ft2	Total Green Surface Areas m2	Site Area ft2	Site Area m2
6.00	Kosrae Campus, Tofol, Kosrae State	11	23,401	2,174	42,718	3,969	344,086	31,966	410,205	38,109

Element	Grounds Keeping				Car Parks, Roads & Pavements			Fences & Gates		Structures			Site Drainage			Electrical Infrastructure		Water Services	Site Furniture	Telecom Services	
Maintenance Task	Mowing	Spraying	General Grounds Keeping	Pruning & General Tree Maint.	Regrade, Relevel & Compact Gravel Surface	Pot/Crack Fill Asphalt Surface	Pot/Crack Fill Concrete Surface	Repaint Fences & Gates	Fence & Gate Repairs	Minor Building Structures Wash	Minor Building Structures General Repairs	Minor Building Structures Repaint	Site Stormwater Drainage Maint.	Building Stormwater Drainage Maint.	Building Sewer Drainage Maint.	General Electrical Maint.	General Electrical Servicing	General Water Services Maint.	General Site Furniture Maint.	General Telecom Services	
Unit	LS Allow / Green Area	LS Allow / Green Area	LS Allow / Green Area	LS Allow.	LS Allow / Area	LS Allow / Area	LS Allow / Area	LS Allow.	LS Allow.	LS Allow / GFA	LS Allow / Building No	LS Allow / GFA	LS Allow.	LS Allow / Building	LS Allow / Building	LS Allow / Building	LS Allow	LS Allow / Building	LS Allow.	LS Allow / Building	
Rate/Cost ($ USD)	0.00023	0.00012	0.00046	2,500.00	0.28	0.05	0.05	2,000.00	500.00	0.01	100.00	0.65	1,000.00	50.00	50.00	100.00	1,000.00	25.00	1,000.00	25.00	
Frequency (Years)	0.08	0.50	0.25	1.00	1.00	1.00	1.00	5.00	1.00	0.50	1.00	5.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Quantity	344,086	344,086	344,086	1	24,385	0	11,116	1	2	6,913	3	6,348	1	11	11	11	1	11	1	11	
Total Cost Per Occurrence ($ USD)	80	40	160	2,500	6,796	0	556	2,000	1,000	69	300	4,128	1,000	550	550	1,100	1,000	275	1,000	275	**Total**
Annualised Maint. Budget ($ USD)	**959**	**80**	**639**	**2,500**	**6,796**	**0**	**556**	**400**	**1,000**	**138**	**300**	**826**	**1,000**	**550**	**550**	**1,100**	**1,000**	**275**	**1,000**	**275**	**19,944**
	4,178				**7,352**			**1,400**		**1,264**			**2,100**			**2,100**		**275**	**1,000**	**275**	
Labour Portion (%)	**70%**	**35%**	**50%**	**70%**	**30%**	**30%**	**30%**	**70%**	**80%**	**70%**	**50%**	**60%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	
Labour Cost ($ USD)	**671**	**28**	**320**	**1,750**	**2,039**	**0**	**167**	**280**	**800**	**97**	**150**	**495**	**500**	**275**	**275**	**550**	**500**	**138**	**500**	**138**	**9,672**
Labour Hours (Based on $3/Hour)	**224**	**9**	**107**	**583**	**680**	**0**	**56**	**93**	**267**	**32**	**50**	**165**	**167**	**92**	**92**	**183**	**167**	**46**	**167**	**46**	**3,224**
Voluntary Labour	**0**	**0**	**107**	**583**	**0**	**0**	**0**	**93**	**0**	**32**	**0**	**165**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**981**
Employed or Contract Labour	**224**	**9**	**0**	**0**	**680**	**0**	**56**	**0**	**267**	**0**	**50**	**0**	**167**	**92**	**92**	**183**	**167**	**46**	**167**	**46**	**2,243**
Labour Savings (Based on $3/Hour)	**0**	**0**	**-320**	**-1,750**	**0**	**0**	**0**	**-280**	**0**	**-97**	**0**	**-495**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-2,942**
Adjusted Labour Cost ($ USD)	**671**	**28**	**0**	**0**	**2,039**	**0**	**167**	**0**	**800**	**0**	**150**	**0**	**500**	**275**	**275**	**550**	**500**	**138**	**500**	**138**	**6,730**
Plant Portion (%)	**30%**	**30%**	**25%**	**30%**	**50%**	**50%**	**50%**	**0%**	**0%**	**20%**	**20%**	**10%**	**30%**	**30%**	**30%**	**30%**	**30%**	**30%**	**0%**	**30%**	
Plant Cost ($ USD)	**288**	**24**	**160**	**750**	**3,398**	**0**	**278**	**0**	**0**	**28**	**60**	**83**	**300**	**165**	**165**	**330**	**300**	**83**	**0**	**83**	**6,493**
Material Portion (%)	**0%**	**35%**	**25%**	**0%**	**20%**	**20%**	**20%**	**30%**	**20%**	**10%**	**30%**	**30%**	**20%**	**20%**	**20%**	**20%**	**20%**	**20%**	**50%**	**20%**	
Material Cost ($ USD)	**0**	**28**	**160**	**0**	**1,359**	**0**	**111**	**120**	**200**	**14**	**90**	**248**	**200**	**110**	**110**	**220**	**200**	**55**	**500**	**55**	**3,780**
Adjusted Annualised Maint. Budget ($ USD)	**959**	**80**	**320**	**750**	**6,796**	**0**	**556**	**120**	**1,000**	**41**	**300**	**330**	**1,000**	**550**	**550**	**1,100**	**1,000**	**275**	**1,000**	**275**	**17,002**
	2,109				**7,352**			**1,120**		**672**			**2,100**			**2,100**		**275**	**1,000**	**275**	

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **MAINTENANCE VS ASSET RENEWALS COST BENEFIT ANALYSIS (BUILDINGS)**

Audit Date: June 2013

Revision: 3 - Draft Version Only

			Gross Floor Area (GFA)		External Wall Area (EWA)		Roof Area (RA)		Door & Window Area (DWA)		Internal Wall Area (IWA)	
Ref	**Building**	**Buildings**	**ft2**	**m2**	**ft2**	**m2**	**ft2**	**m2**	**ft2**	**m2**	**ft2**	**m2**
1.00	Yap Campus, Ruul, Yap State	9	23,213	2,157	20,827	1,935	34,873	3,240	5,349	497	13,256	1,231
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	6	22,374	2,079	20,439	1,899	28,856	2,681	3,983	370	16,707	1,552
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	11	21,371	1,985	23,052	2,142	35,242	3,274	3,271	304	7,829	727
4.00	National Campus, Palikir, Pohnpei State	15	124,691	11,584	100,098	9,299	130,619	12,135	24,769	2,301	49,858	4,632
5.00	Pohnpei Campus, Kolonia, Pohnpei State	16	70,087	6,511	62,069	5,766	83,974	7,801	11,829	1,099	37,100	3,447
6.00	Kosrae Campus, Tofol, Kosrae State	11	23,401	2,174	22,961	2,133	33,311	3,095	4,569	424	5,159	479
Total		**68**	**285,138**	**26,490**	**249,445**	**23,174**	**346,876**	**32,226**	**53,770**	**4,995**	**129,909**	**12,069**

Element	**Structure**							**Internal Fit-Out**					**Services**								
Maintenance Task	Building Wash	External Wall Painting	Protective Coatings to Roof	Wall Cladding Repairs	Roof Cladding Repairs	Door & Window Repairs	Misc Repairs	Floor Finishes Cleaning & Repairs	Internal Wall Painting	Ceiling & Soffit Painting	Internal Door Repairs	Misc Repairs	Fire Supp. Detection & Alarm Systems	Mechanical Ventilation	A/C Systems	Hot Water Generation	Electrical Services	Hydraulic Services	Comm. Systems	Vertical Transport	Misc Repairs	
Unit	ft2	ft2	ft2	ft2	ft2	ft2	LS Allow	ft2	ft2	ft2	No.	LS Allow	ft2	LS Allow	No.	LS Allow	ft2	No.	LS Allow	LS Allow	LS Allow	
Rate/Cost ($ USD)	0.01	0.65	0.93	0.05	0.05	0.25	250.00	0.03	0.56	0.65	25.00	250.00	0.05	100.00	50.00	500.00	0.05	25.00	250.00	2,500.00	250.00	
Frequency (Years)	0.50	5.00	7.00	1.00	1.00	1.00	1.00	1.00	12.00	12.00	1.00	1.00	1.00	1.00	0.50	1.00	1.00	1.00	1.00	1.00	1.00	
Quantity	55,700	20,827	34,873	20,827	34,873	5,349	8	18,469	40,603	18,478	47	7	16,926	14	32	3	18,723	56	6	0	7	
Total Cost Per Occurrence ($ USD)	557	13,544	32,397	1,041	1,744	1,337	1,875	554	22,633	12,016	1,175	1,688	846	1,400	1,600	1,500	936	1,400	1,500	0	1,625	**Total**
Annualised Maint. Budget ($ USD)	**1,114**	**2,709**	**4,628**	**1,041**	**1,744**	**1,337**	**1,875**	**554**	**1,886**	**1,001**	**1,175**	**1,688**	**846**	**1,400**	**3,200**	**1,500**	**936**	**1,400**	**1,500**	**0**	**1,625**	**33,160**
				14,448						**6,304**							**12,407**					**8.1%**
Quantity	49,295	20,439	28,856	20,439	28,856	3,983	7	22,374	53,853	6,767	73	8	21,454	1	32	0	22,374	54	6	0	9	
Total Cost Per Occurrence ($ USD)	493	13,292	26,808	1,022	1,443	996	1,750	671	30,018	4,400	1,825	2,000	1,073	100	1,600	0	1,119	1,350	1,500	0	2,250	**Total**
Annualised Maint. Budget ($ USD)	**986**	**2,658**	**3,830**	**1,022**	**1,443**	**996**	**1,750**	**671**	**2,502**	**367**	**1,825**	**2,000**	**1,073**	**100**	**3,200**	**0**	**1,119**	**1,350**	**1,500**	**0**	**2,250**	**30,640**
				12,684						**7,364**							**10,591**					**7.5%**
Quantity	58,294	23,052	35,242	23,052	35,242	3,271	11	21,371	38,710	29,646	43	11	21,371	3	40	0	21,371	45	10	0	11	
Total Cost Per Occurrence ($ USD)	583	14,991	32,741	1,153	1,762	818	2,750	641	21,578	19,280	1,075	2,750	1,069	300	2,000	0	1,069	1,125	2,500	0	2,750	**Total**
Annualised Maint. Budget ($ USD)	**1,166**	**2,998**	**4,677**	**1,153**	**1,762**	**818**	**2,750**	**641**	**1,798**	**1,607**	**1,075**	**2,750**	**1,069**	**300**	**4,000**	**0**	**1,069**	**1,125**	**2,500**	**0**	**2,750**	**36,007**
				15,324						**7,871**							**12,812**					**8.8%**
Quantity	230,717	100,098	130,619	100,098	130,619	24,769	34	124,691	199,814	101,023	327	35	124,691	32	153	6	124,691	282	32	1	35	
Total Cost Per Occurrence ($ USD)	2,307	65,095	121,348	5,005	6,531	6,192	8,500	3,741	111,379	65,697	8,175	8,750	6,235	3,200	7,650	3,000	6,235	7,050	8,000	2,500	8,750	**Total**
Annualised Maint. Budget ($ USD)	**4,614**	**13,019**	**17,335**	**5,005**	**6,531**	**6,192**	**8,500**	**3,741**	**9,282**	**5,475**	**8,175**	**8,750**	**6,235**	**3,200**	**15,300**	**3,000**	**6,235**	**7,050**	**8,000**	**2,500**	**8,750**	**156,888**
				61,197						**35,422**							**60,269**					**38.5%**
Quantity	146,043	62,069	83,974	62,069	83,974	11,829	44	70,087	136,268	81,658	107	44	70,087	20	95	3	70,087	117	41	0	41	
Total Cost Per Occurrence ($ USD)	1,460	40,364	78,014	3,103	4,199	2,957	11,000	2,103	75,958	53,104	2,675	11,000	3,504	2,000	4,750	1,500	3,504	2,925	10,250	0	10,250	**Total**
Annualised Maint. Budget ($ USD)	**2,921**	**8,073**	**11,145**	**3,103**	**4,199**	**2,957**	**11,000**	**2,103**	**6,330**	**4,425**	**2,675**	**11,000**	**3,504**	**2,000**	**9,500**	**1,500**	**3,504**	**2,925**	**10,250**	**0**	**10,250**	**113,364**
				43,398						**26,533**							**43,434**					**27.8%**
Quantity	56,272	22,961	33,311	22,961	33,311	4,569	12	23,401	33,279	29,439	36	12	23,401	7	37	0	23,401	48	12	0	12	
Total Cost Per Occurrence ($ USD)	563	14,932	30,947	1,148	1,666	1,142	3,000	702	18,550	19,144	900	3,000	1,170	700	1,850	0	1,170	1,200	3,000	0	3,000	**Total**
Annualised Maint. Budget ($ USD)	**1,125**	**2,986**	**4,421**	**1,148**	**1,666**	**1,142**	**3,000**	**702**	**1,546**	**1,595**	**900**	**3,000**	**1,170**	**700**	**3,700**	**0**	**1,170**	**1,200**	**3,000**	**0**	**3,000**	**37,172**
				15,489						**7,743**							**13,940**					**9.1%**
Total Quantity	596,321	249,445	346,876	249,445	346,876	53,770	116	280,394	502,527	267,011	633	117	277,931	77	389	12	280,648	602	107	1	115	
Total Annualised Maint. Budget ($ USD)	**11,926**	**32,444**	**46,036**	**12,472**	**17,344**	**13,442**	**28,875**	**8,412**	**23,343**	**14,470**	**15,825**	**29,188**	**13,897**	**7,700**	**38,900**	**6,000**	**14,032**	**15,050**	**26,750**	**2,500**	**28,625**	**407,231**
				162,540						**91,237**							**153,454**					**100.0%**

Maintenance vs Asset Renewals Cost Benefit Analysis

	Element	**Structure**			**Internal Fit-Out**					**Services**									
		Building Envelope - External Wall & Roof Cladding	**External Windows & Doors**	**Misc**	**Floor Finishes**	**Internal Wall Linings**	**Ceiling & Soffit Linings**	**Internal Doors**	**Misc**	**Fire Supp. Detection & Alarm Systems**	**Mechanical Ventilation**	**A/C Systems**	**Hot Water Generation**	**Electrical Services**	**Hydraulic Services**	**Comm. Systems**	**Vertical Transport**	**Misc**	
	Quantity	596,321	53,770	116	280,394	502,527	267,011	633	117	285,138	77	389	12	285,138	602	285,138	1	115	
	Unit Measure	ft2	ft2	No.	ft2	ft2	ft2	No.	No.	ft2	ft2	No.	No.	ft2	No.	ft2	No.	No.	
	Rate	13	90	20,000	11	8	8	1,500	5,000	2	1,000	4,400	5,000	18	3,500	4	65,000	10,000	
	Asset Renewal Cost (Approx. Only for CBA)	7,752,167	4,839,296	2,310,000	3,084,332	4,020,219	2,136,089	949,500	583,750	570,277	77,000	1,711,600	60,000	5,132,490	2,107,000	1,140,553	65,000	1,145,000	37,684,272
Baseline Asset Renewal Cycle	**Asset Renewal Cycle (Years)**	30	50	30	15	20	20	50	30	20	20	7	30	30	30	20	40	30	
	Asset Renewal Frequency (Over 30 Years)	1.00	0.60	1.00	2.00	1.50	1.50	0.60	1.00	1.50	1.50	4.29	1.00	1.00	1.00	1.50	0.75	1.00	
	Total Asset Renewal Expenditure (Over 30 Years)	7,752,167	2,903,577	2,310,000	6,168,664	6,030,328	3,204,134	569,700	583,750	855,415	115,500	7,335,429	60,000	5,132,490	2,107,000	1,710,830	48,750	1,145,000	48,032,734
	Forecast Extension in Asset Life (Years)	30	20	10	5	10	10	20	10	0	10	5	10	10	10	0	10	10	
Target Asset Renewal Cycle (Deploying Maintenance Regime)	**Asset Renewal Cycle (Years)**	60	70	40	20	30	30	70	40	20	30	12	40	40	40	20	50	40	
	Asset Renewal Frequency (Over 30 Years)	0.50	0.43	0.75	1.50	1.00	1.00	0.43	0.75	1.50	1.00	2.50	0.75	0.75	0.75	1.50	0.60	0.75	
	Total Asset Renewal Expenditure (Over 30 Years)	3,876,084	2,073,984	1,732,500	4,626,498	4,020,219	2,136,089	406,929	437,813	855,415	77,000	4,279,000	45,000	3,849,367	1,580,250	1,710,830	39,000	858,750	32,604,727
Asset Renewal Savings	**Cost Saving (Over 30 Years)**	3,876,084	829,594	577,500	1,542,166	2,010,109	1,068,045	162,771	145,938	0	38,500	3,056,429	15,000	1,283,122	526,750	0	9,750	286,250	15,428,007
Maintenance Regime - Using Fully Employed Labour	**Maintenance Cost Expenditure (Over 30 Years)**	3,606,675	403,275	866,250	252,354	700,289	434,104	474,750	875,625	416,896	231,000	1,167,000	180,000	420,972	451,500	802,500	75,000	858,750	12,216,941
	Cost Benefit (Over 30 Years)	269,408	426,319	(288,750)	1,289,812	1,309,820	633,941	(311,979)	(729,688)	(416,896)	(192,500)	1,889,429	(165,000)	862,150	75,250	(802,500)	(65,250)	(572,500)	3,211,066

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **MAINTENANCE VS ASSET RENEWALS COST BENEFIT ANALYSIS (BUILDINGS)**

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			Gross Floor Area (GFA)		External Wall Area (EWA)		Roof Area (RA)		Door & Window Area (DWA)		Internal Wall Area (IWA)		Element	Structure							Internal Fit-Out						Services								
Ref	Building	Buildings	ft2	m2	ft2	m2	ft2	m2	ft2	m2	ft2	m2	Maintenance Task	Building Wash	External Wall Painting	Protective Coatings to Roof	Wall Cladding Repairs	Roof Cladding Repairs	Door & Window Repairs	Misc Repairs	Floor Finishes Cleaning & Repairs	Internal Wall Painting	Ceiling & Soffit Painting	Internal Door Repairs	Misc Repairs	Fire Supp. Detection & Alarm Systems	Mechanical Ventilation	A/C Systems	Hot Water Generation	Electrical Services	Hydraulic Services	Comm. Systems	Vertical Transport	Misc Repairs	
													Unit	ft2	ft2	ft2	ft2	ft2	ft2	LS Allow	ft2	ft2	ft2	No.	LS Allow	ft2	LS Allow	No.	LS Allow	ft2	No.	LS Allow	LS Allow	LS Allow	
													Rate/Cost ($ USD)	0.01	0.65	0.93	0.05	0.05	0.25	250.00	0.03	0.56	0.65	25.00	250.00	0.05	100.00	50.00	500.00	0.05	25.00	250.00	2,500.00	250.00	
													Frequency (Years)	0.50	5.00	7.00	1.00	1.00	1.00	1.00	1.00	12.00	12.00	1.00	1.00	1.00	1.00	0.50	1.00	1.00	1.00	1.00	1.00	1.00	
													Maintenance Cost Expenditure (Over 30 Years)	2,522,151					282,010	605,769	170,510	473,168	293,313	320,777	591,639	328,265	181,890	918,898	141,732	331,474	355,512	631,890	59,055	676,181	8,884,233
													Cost Benefit (Over 30 Years)	1,353,933					547,583	(28,269)	1,371,656	1,536,941	774,731	(158,006)	(445,701)	(328,265)	(143,390)	2,137,531	(126,732)	951,648	171,238	(631,890)	(49,305)	(389,931)	6,543,774
													Can the Asset be Retained & Maintained Post Life Expectancy	Yes					Yes	Yes	No	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	

Maintenance Regime - Using Combined Employed & Voluntary Labour Maintenance

Other Tangible Benefits of Maintenance Regime

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **SUMMARY OF MASTER PLAN IMPACTS ON OPERATIONAL COSTS**

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	Summary of Master plan Impacts on Operational Cost Model														Current Estimated Asset Value (Base Assessment)	Estimated Capital Improvements (As Per Master Plan)				Estimated Asset Value (On Completion of MP Projects)			
Ref	**Campus**	**1-10Y Base Operational Cost ($ USD)**	**11-20Y Base Operational Cost ($ USD)**	**21-30Y Base Operational Cost ($ USD)**	**Total 30Y Base Operational Cost ($ USD)**	**Base Operational Cost Annualised ($ USD)**	**1-10Y Adjusted Operational Cost ($ USD)**	**11-20Y Adjusted Operational Cost ($ USD)**	**21-30Y Adjusted Operational Cost ($ USD)**	**Total 30Y Adjusted Operational Cost On Completion of MP Projects ($ USD)**	**Adjusted Operational Cost Annualised ($ USD)**	**30Y Operational Cost Variance ($ USD)**	**Annualised Operational Cost Variance ($ USD)**	**Variance (%)**	**Estimated Full Replacement Cost of Existing Asset ($ USD)**	**When Implemented Period 1 Y1-10**	**When Implemented Period 2 Y11-20**	**When Implemented Not Yet Defined**	**Total Capital Improvements ($ USD)**	**Asset Value after Capital Improvements ($ USD)**	**Increase on Asset Value ($ USD)**	**Increase on Asset Value (%)**	**Variance on Asset Value vs Capital Improvements ($ USD)**
1.00	Yap Campus, Ruul, Yap State	1,186,683	1,603,286	2,255,042	**5,045,011**	168,167	537,613	1,578,072	2,643,483	**4,759,168**	158,639	-285,843	-9,528	-6.01%	**5,797,414**	7,595,000	2,755,000	600,000	**10,950,000**	**14,515,892**	8,718,478	150.39%	-2,231,522
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	1,915,988	2,542,092	2,212,369	**6,670,450**	222,348	1,891,635	2,637,453	2,471,619	**7,000,708**	233,357	330,257	11,009	4.72%	**6,473,690**	2,238,000	740,000	1,150,000	**4,128,000**	**10,504,738**	4,031,048	62.27%	-96,952
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	1,702,962	1,861,741	2,293,145	**5,857,848**	195,262	458,824	1,161,516	2,434,515	**4,054,855**	135,162	-1,802,994	-60,100	-44.47%	**5,835,321**	20,050,000	3,390,000	500,000	**23,940,000**	**29,690,321**	23,855,000	408.80%	-85,000
4.00	National Campus, Palikir, Pohnpei State	7,181,838	11,003,654	9,307,913	**27,493,404**	916,447	7,181,838	11,423,304	10,181,563	**28,786,704**	959,557	1,293,300	43,110	4.49%	**48,669,850**	7,910,000	1,000,000	500,000	**9,410,000**	**57,934,850**	9,265,000	19.04%	-145,000
5.00	Pohnpei Campus, Kolonia, Pohnpei State	5,931,315	5,389,036	6,988,723	**18,309,074**	610,302	2,161,034	3,867,236	6,056,193	**12,084,463**	402,815	-6,224,611	-207,487	-51.51%	**19,074,905**	6,240,000	5,580,000	820,000	**12,640,000**	**24,067,250**	4,992,345	26.17%	-7,647,655
6.00	Kosrae Campus, Tofol, Kosrae State	1,631,210	2,345,998	2,826,665	**6,803,873**	226,796	1,222,277	2,116,840	2,924,509	**6,263,626**	208,788	-540,248	-18,008	-8.63%	**7,179,222**	7,375,000	4,395,000	1,130,000	**12,900,000**	**17,899,272**	10,720,051	149.32%	-2,179,949
Total		**19,549,997**	**24,745,807**	**25,883,857**	**70,179,661**	**2,339,322**	**13,453,220**	**22,784,420**	**26,711,882**	**62,949,523**	**2,098,317**	**-7,230,138**	**-241,005**	**-11.49%**	**93,030,402**	**51,408,000**	**17,860,000**	**4,700,000**	**73,968,000**	**154,612,323**	**61,581,922**	**66.20%**	**-12,386,078**

Note: All of the above figures exclude escalation costs, Government taxes and other costs associated with the day-to-day running of campuses (i.e. management, administration and energy costs, etc).

Project: **COLLEGE OF MICRONESIA - FSM**

Document: **MASTER PLAN IMPACTS ON OPERATIONAL COSTS**

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	Operational Cost Trends (Note: % Includes Factor Uplift for Maintenance Carried Out Over Period)		Period 1 Year 1-10	Period 2 Year 11-20	Period 3 Year 21-30	
Ref	**Building Condition Grade**	**Definition**	**% AR & Maint**	**% AR & Maint**	**% AR & Maint**	**Total % AR & Maint**
1.00	Condition Grade 1 = Very Good	The building/element is new and is functioning as required.	5.5%	10.5%	29.5%	**45.5%**
			Minor Spend	Minor Spend	Major Spend	-
2.00	Condition Grade 2 = Good	The building/element is functioning as required.	8.5%	17.5%	34.5%	**60.5%**
			Minor Spend	Minor Spend	Major Spend	-
3.00	Condition Grade 3 = Average	The building element is approaching the end of its serviceable life but is still functioning as required. Maintenance is required to extend serviceable life.	17.5%	36.5%	21.5%	**75.5%**
			Minor Spend	Major Spend	Minor Spend	-
4.00	Condition Grade 4 = Poor	The building element is showing signs of failure and deterioration. Extensive maintenance is required or the item should be considered for replacement.	36.5%	31.5%	21.5%	**89.5%**
			Major Spend	Major Spend	Minor Spend	-
5.00	Condition Grade 5 = Very Poor	The building element has failed and has deteriorated significantly beyond the point of repair. The item must be replaced	51.5%	26.5%	26.5%	**104.5%**
			Major Spend	Major Spend	Major Spend	-

				Operational Costs (Base Model)				Proposed Capital Improvements						Operational Costs (Adjusted for Capital Improvements)				
Ref	**Campus**	**Building**	**Estimated Full Replacement Cost**	**Total Year 1-10 Operational Cost ($ USD)**	**Total Year 11-20 Operational Cost ($ USD)**	**Total Year 21-30 Operational Cost ($ USD)**	**Total Operational Cost ($ USD)**	**Master plan Initiative**	**Total Capital Improvements ($ USD)**	**Asset Value after Capital Improvements ($ USD)**	**When Implemented Period 1 Y1-10**	**When Implemented Period 2 Y11-20**	**When Implemented Not Yet Defined**	**Total Adjusted Year 1-10 Operational Cost ($ USD)**	**Total Adjusted Year 11-20 Operational Cost ($ USD)**	**Total Adjusted Year 21-30 Operational Cost ($ USD)**	**Total Adjusted Operational Cost ($ USD)**	**Variance from Previous Operational Cost Forecast ($ USD)**
1.00	Yap Campus, Ruul, Yap State	A - Administration Building	**828,045**	263,441	341,778	397,075	**1,002,295**	10 - Demolish existing administration building	**30,000**	**0**	30,000	-	-	0	0	0	**0**	-1,002,295
		B - Computer Lab	**243,263**	47,166	81,026	117,275	**245,467**	2 - Refit computer classroom for combined upward bound and computer lab	**20,000**	**0**	20,000	-	-	0	0	0	**0**	-245,467
								8 - Demolish computer lab building	**30,000**		30,000	-	-					
		C - Land Grant Research Lab	**512,307**	100,943	253,109	139,652	**493,705**	12 - New CRE extension to CRE building (Building 3)	**670,000**	**670,000**	670,000	-	-	100,943	289,959	210,002	**600,905**	107,200
								16 - New CRE - Research wing	**0**	**0**	-	0	-					
		D - Science Laboratory	**993,389**	62,855	99,841	380,363	**543,059**	None	**0**	**993,389**	-	-	-	62,855	99,841	380,363	**543,059**	0
		E - Student Centre (New)	**860,440**	100,872	155,867	322,066	**578,805**	None	**0**	**860,440**	-	-	-	100,872	155,867	322,066	**578,805**	0
		F - Classroom Building (New)	**1,028,547**	94,716	159,984	325,436	**580,136**	None	**0**	**1,028,547**	-	-	-	94,716	159,984	325,436	**580,136**	0
		G - Vocational Education	**567,907**	338,463	159,010	164,484	**661,957**	5 - New VOCED building and maintenance facility (Building area excludes covered ways)	**2,400,000**	**2,400,000**	2,400,000	-	-	0	132,000	252,000	**384,000**	-277,957
		H - Student Open Lounge	**58,828**	13,654	3,766	3,450	**20,871**	None	**0**	**58,828**	-	-	-	13,654	3,766	3,450	**20,871**	0
		J - Restroom Facility	**73,029**	9,447	47,128	21,835	**78,410**	None	**0**	**73,029**	-	-	-	9,447	47,128	21,835	**78,410**	0
		Site Infrastructure	**631,658**	155,126	301,776	383,406	**840,308**	1 - Formed paths providing direct connection between buildings through the centre of the campus	**65,000**	**2,141,658**	65,000	-	-	155,126	343,576	467,881	**966,583**	126,275
								3 - Access to boundary carpark - Southern boundary	**440,000**		440,000	-	-					
								4 - Fence around German Tower - If required	**15,000**		15,000	-	-					
								6 - Create hard court area near Student Services building , 2 study huts and landscaping	**40,000**		40,000	-	-					
								7 - Implement a landscape plan across the campus	**265,000**		265,000	-	-					
								13 - Relocate basketball hardcourt area	**85,000**		-	85,000	-					
								17 - Relocate power poles servicing other properties	**50,000**		-	-	50,000					
								18 - Solar power generation	**500,000**		-	-	500,000					
								19 - Works to increase drainage capacity - Swales and subsoil drainage	**50,000**		-	-	50,000					
		New Building - Classroom Block	**0**	0	0	0	**0**	14 - Additional new classroom block between student centre and classroom block (Building 5)	**740,000**	**740,000**	-	740,000	-	0	40,700	77,700	**118,400**	118,400
		New Building - Gymnasium	**0**	0	0	0	**0**	15 - New gymnasium	**1,930,000**	**1,930,000**	-	1,930,000	-	0	106,150	202,650	**308,800**	308,800
		New Building - Administration & Faculty Building	**0**	0	0	0	**0**	9 - New administration and faculty building on computer lab site (Building 2)	**1,720,000**	**1,720,000**	1,720,000	-	-	0	94,600	180,600	**275,200**	275,200
		New Building - LRC & Computer Lab	**0**	0	0	0	**0**	11 - New LRC and computer lab on previous administration site (Building 4)	**1,900,000**	**1,900,000**	1,900,000	-	-	0	104,500	199,500	**304,000**	304,000
			5,797,414	**1,186,683**	**1,603,286**	**2,255,042**	**5,045,011**	**Total**	**10,950,000**	**14,515,892**	**7,595,000**	**2,755,000**	**600,000**	**537,613**	**1,578,072**	**2,643,483**	**4,759,168**	**-285,843**

Project: **COLLEGE OF MICRONESIA - FSM**

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				Operational Costs (Base Model)				Proposed Capital Improvements						Operational Costs (Adjusted for Capital Improvements)				
Ref	**Campus**	**Building**	**Estimated Full Replacement Cost**	**Total Year 1-10 Operational Cost ($ USD)**	**Total Year 11-20 Operational Cost ($ USD)**	**Total Year 21-30 Operational Cost ($ USD)**	**Total Operational Cost ($ USD)**	**Master plan Initiative**	**Total Capital Improvements ($ USD)**	**Asset Value after Capital Improvements ($ USD)**	**When Implemented Period 1 Y1-10**	**When Implemented Period 2 Y11-20**	**When Implemented Not Yet Defined**	**Total Adjusted Year 1-10 Operational Cost ($ USD)**	**Total Adjusted Year 11-20 Operational Cost ($ USD)**	**Total Adjusted Year 21-30 Operational Cost ($ USD)**	**Total Adjusted Operational Cost ($ USD)**	**Variance from Previous Operational Cost Forecast ($ USD)**
2.00	FSM-FMI (Fisheries & Maritime Institute), Gagil, Yap State	A - Administration/Student Services, Residence & Mess Hall	**2,952,425**	847,932	927,355	1,026,803	**2,802,091**	3 - Relocate women's quarters into the north eastern end of Administration Building A and add conference room and administration office to area vacated by the residence.	**40,000**	**2,997,425**	40,000	-	-	847,932	927,355	1,026,803	**2,802,091**	0
								4 - Remove wall between men's and previous women's quarters. Move men's quarters to the north and utilise the southern quarters as library study space	**5,000**		5,000	-	-					
		B - Staff Housing	**752,197**	276,747	145,156	288,316	**710,218**	None	**0**	**710,218**	-	-	-	276,747	145,156	288,316	**710,218**	0
		C - Classrooms, Library & Shops	**1,229,618**	340,176	316,988	503,529	**1,160,692**	5 - Increase computer room to incorporate former library space in Building C	**3,000**	**1,577,618**	3,000	-	-	340,176	336,128	540,069	**1,216,372**	55,680
								6 - Separate server room from IT office (within existing building envelope)	**20,000**		20,000	-	-					
								7 - Provide covered access over classroom doors to Building C, new cadet toilet block next to Seaman's shelter and rationalise location of the access path	**60,000**		60,000	-	-					
								12 - Improve shop areas by constructing a stand alone engineering shop area (Building 3)	**265,000**		265,000	-	-					
		D - Maintenance	**71,150**	31,969	25,675	31,200	**88,844**	None	**0**	**71,150**	-	-	-	31,969	25,675	31,200	**88,844**	0
		E - Shower House	**116,330**	42,180	38,431	46,636	**127,247**	None	**0**	**116,330**	-	-	-	42,180	38,431	46,636	**127,247**	0
		F - Security Post	**54,973**	24,353	25,254	14,866	**64,473**	13 - New security post	**30,000**	**30,000**	30,000	-	-	0	1,650	3,150	**4,800**	-59,673
		Site Infrastructure	**1,296,997**	352,632	1,063,233	301,020	**1,716,885**	1 - Address provision of fire fighting facilities (Fire fighting hydrants through site)	**165,000**	**3,696,997**	165,000	-	-	352,632	1,091,283	398,420	**1,842,335**	125,450
								8 - Upgrade below ground services - drainage and water supply	**200,000**		200,000	-	-					
								9 - Storage for maintenance materials (potentially a container type facility)	**10,000**		10,000	-	-					
								10 - Address the current sewage system and leaching field	**135,000**		135,000	-	-					
								14 - Covered recreation area (over basketball court) for drills	**740,000**		-	740,000	-					
								15 - Work with State Government to investigate rerouting the main road to the south of the classroom Building C	**200,000**		-	-	200,000					
								16 - Provide facility for on site water supply	**350,000**		-	-	350,000					
								17 - Solar power generation	**500,000**		-	-	500,000					
								18 - Works to increase drainage capacity - swales and subsoil drainage	**100,000**		-	-	100,000					
		New Building - Duplex Residence	**0**	0	0	0	**0**	2 - New duplex residence for instructors in the residential zone (Building 1)	**840,000**	**840,000**	840,000	-	-	0	46,200	88,200	**134,400**	134,400
		New Building - Classroom / Study Space	**0**	0	0	0	**0**	11 - New classroom/ study space with covered access connecting to residential quarters (Building 2)	**465,000**	**465,000**	465,000	-	-	0	25,575	48,825	**74,400**	74,400
			6,473,690	**1,915,988**	**2,542,092**	**2,212,369**	**6,670,450**	**Total**	**4,128,000**	**10,504,738**	**2,238,000**	**740,000**	**1,150,000**	**1,891,635**	**2,637,453**	**2,471,619**	**7,000,708**	**330,257**

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Ref	Campus	Building	Estimated Full Replacement Cost	Operational Costs (Base Model)				Proposed Capital Improvements						Operational Costs (Adjusted for Capital Improvements)				
				Total Year 1-10 Operational Cost ($ USD)	Total Year 11-20 Operational Cost ($ USD)	Total Year 21-30 Operational Cost ($ USD)	Total Operational Cost ($ USD)	Master plan Initiative	Total Capital Improvements ($ USD)	Asset Value after Capital Improvements ($ USD)	When Implemented Period 1 Y1-10	When Implemented Period 2 Y11-20	When Implemented Not Yet Defined	Total Adjusted Year 1-10 Operational Cost ($ USD)	Total Adjusted Year 11-20 Operational Cost ($ USD)	Total Adjusted Year 21-30 Operational Cost ($ USD)	Total Adjusted Operational Cost ($ USD)	Variance from Previous Operational Cost Forecast ($ USD)
3.00	Chuuk Campus, Nepukos Weno, Chuuk State	A - Faculty Office (A - Admin/Faculty Office)	**790,310**	186,237	349,695	260,457	**796,389**	9 - Staff lounge - meeting place for all faculty - review classroom/ faculty space and consider conversion of one	**5,000**	**795,310**	5,000	-	-	49,691	0	0	**49,691**	-746,698
		B - Classroom (B Classroom Building B)	**673,750**	79,529	148,080	347,200	**574,809**	3 - Retrofit a classroom with a science bench and plumbing	**80,000**	**673,750**	80,000	-	-	36,435	0	0	**36,435**	-538,374
								8 - Meeting room for student body meetings - review classroom use and retrofit within existing building footprint	**5,000**		5,000	-	-					
								10 - Conference space set up with conferencing remote learning - review classroom utilization and convert classroom space to new function	**Excl. Assumed Sep Budget**		Excl. Assumed Sep Budget	-	-					
		C - MITC & Classroom (C - Classroom Building C)	**552,668**	80,444	163,288	235,304	**479,036**	None	**0**	**552,668**	-	-	-	31,990	0	0	**31,990**	-447,046
		D - Computer Lab (I - Computer Lab)	**427,093**	93,767	143,618	122,519	**359,903**	None	**0**	**427,093**	-	-	-	25,708	0	0	**25,708**	-334,196
		E - Library Building (K - Learning Resources Centre)	**422,535**	76,749	163,709	119,200	**359,658**	None	**0**	**422,535**	-	-	-	27,414	0	0	**27,414**	-332,245
		F - Counselling Center (F - CRE Building)	**372,223**	69,011	89,291	201,090	**359,392**	6 - Extend CRE - extension building to main road	**0**	**372,223**	0	-	-	69,011	89,291	201,090	**359,392**	0
		G - Research Lab (J - Student Centre)	**496,555**	166,683	217,496	209,299	**593,478**	4 - Re-roof student covered area and add roof ventilation	**See Asset Renewals**	**496,555**	See Asset Renewals	-	-	34,843	0	0	**34,843**	-558,636
		H - Student Support Services (H - Student Services Building)	**371,451**	125,671	127,792	88,863	**342,325**	None	**0**	**371,451**	-	-	-	24,316	0	0	**24,316**	-318,009
		I - Directors Office (D - Campus Deans Office)	**264,636**	76,717	109,477	142,762	**328,957**	None	**0**	**264,636**	-	-	-	21,613	0	0	**21,613**	-307,344
		J - Restroom Facility (E - Restroom Facility)	**192,464**	17,276	95,800	34,447	**147,523**	None	**0**	**192,464**	-	-	-	15,120	0	0	**15,120**	-132,403
		M - Midtown (Off Campus)	**364,796**	339,652	23,555	125,159	**488,366**	None	**0**	**364,796**	-	-	-	20,606	0	0	**20,606**	-467,760
		Site Infrastructure	**906,841**	391,226	229,939	406,845	**1,028,011**	1 - Extend campus to the north, fence perimeter and create a coral base carpark area with an entry and exit onto the main road	**210,000**	**1,236,841**	210,000	-	-	102,078	0	0	**102,078**	-925,933
								2 - Restrict cars to campus, designate carpark area for visitors, create a central grassed area, 2 study huts on the coastal edge	**100,000**		100,000	-	-					
								5 - Upgrade wi fi	**Excl. Assumed Sep Budget**		Excl. Assumed Sep Budget	-	-					
								7 - Landscaping (continuous line of hedges) along the road frontage and upgrade signage	**20,000**		20,000	-	-					
	Nantaku Site, Chuuk	New Building - 1 and 2 Two Level Admin & Classrooms	**0**	0	0	0	**0**	14 - Building 1, and 2 - Two level administration and classroom buildings and associated landscaping	**8,030,000**	**8,030,000**	8,030,000	-	-	0	441,650	843,150	**1,284,800**	1,284,800
		New Building - 5 CRE Research Building	**0**	0	0	0	**0**	15 - Building 5 - CRE - Research building	**0**	**0**	0	-	-	0	0	0	**0**	0
		New Building - 3 Maintenance Building	**0**	0	0	0	**0**	16 - Building 3 - Maintenance building (at top of the site)	**430,000**	**430,000**	430,000	-	-	0	23,650	45,150	**68,800**	68,800
		New Building - 4 Two Level Classroom Building	**0**	0	0	0	**0**	17 - Building 4 - Two Level Classroom Dependent on Roll Numbers Increase	**4,235,000**	**4,235,000**	4,235,000	-	-	0	232,925	444,675	**677,600**	677,600
		New Building - 5 Further Classroom	**0**	0	0	0	**0**	17 - Building 5 - Further Classroom (Type of Building Dependant on Roll Numbers)	**3,390,000**	**3,390,000**	-	3,390,000	-	0	0	186,450	**186,450**	186,450
		Site Infrastructure	**0**	0	0	0	**0**	11 - Road connection to site	**2,300,000**	**7,435,000**	2,300,000	-	-	0	374,000	714,000	**1,088,000**	1,088,000
								12 - Site infrastructure services - water supply, site drainage, sewage disposal, electricity	**3,250,000**		3,250,000	-	-					
								13 - On site roading infrastructure and form basketball hardcourt area	**1,250,000**		1,250,000	-	-					
								18 - Associated landscaping	**135,000**		135,000	-	-					
								19 - Solar power generation	**500,000**		-	-	500,000					
			5,835,321	**1,702,962**	**1,861,741**	**2,293,145**	**5,857,848**	**Total**	**23,940,000**	**29,690,321**	**20,050,000**	**3,390,000**	**500,000**	**458,824**	**1,161,516**	**2,434,515**	**4,054,855**	**-1,802,994**

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				Operational Costs (Base Model)				Proposed Capital Improvements						Operational Costs (Adjusted for Capital Improvements)				
Ref	**Campus**	**Building**	**Estimated Full Replacement Cost**	**Total Year 1-10 Operational Cost ($ USD)**	**Total Year 11-20 Operational Cost ($ USD)**	**Total Year 21-30 Operational Cost ($ USD)**	**Total Operational Cost ($ USD)**	**Master plan Initiative**	**Total Capital Improvements ($ USD)**	**Asset Value after Capital Improvements ($ USD)**	**When Implemented Period 1 Y1-10**	**When Implemented Period 2 Y11-20**	**When Implemented Not Yet Defined**	**Total Adjusted Year 1-10 Operational Cost ($ USD)**	**Total Adjusted Year 11-20 Operational Cost ($ USD)**	**Total Adjusted Year 21-30 Operational Cost ($ USD)**	**Total Adjusted Operational Cost ($ USD)**	**Variance from Previous Operational Cost Forecast ($ USD)**
4.00	National Campus, Palikir, Pohnpei State	A - Classroom	**2,022,463**	338,170	790,688	410,833	**1,539,691**	4 - Rationalize the science storage space to include project space through replanning layout of the existing space	**50,000**	**2,022,463**	50,000	-	-	338,170	790,688	410,833	**1,539,691**	0
		B - Classroom	**1,982,193**	221,795	564,681	316,556	**1,103,032**	None	**0**	**1,982,193**	-	-	-	221,795	564,681	316,556	**1,103,032**	0
		C - Cafeteria	**1,759,997**	322,478	486,245	455,716	**1,264,439**	13 - Remove offices on the side of the dining hall and increase dining hall space	**20,000**	**1,759,997**	20,000	-	-	322,478	486,245	455,716	**1,264,439**	0
		D - Male Residence Hall	**2,933,255**	267,033	450,049	551,914	**1,268,996**	None	**0**	**2,933,255**	-	-	-	267,033	450,049	551,914	**1,268,996**	0
		E - Female Residence Hall	**2,413,721**	212,716	402,972	451,957	**1,067,645**	None	**0**	**2,413,721**	-	-	-	212,716	402,972	451,957	**1,067,645**	0
		F - Faculty Office	**1,172,080**	206,803	294,459	373,237	**874,499**	None	**0**	**1,172,080**	-	-	-	206,803	294,459	373,237	**874,499**	0
		F2 - Faculty Office	**1,204,613**	142,413	595,879	414,515	**1,152,807**	None	**0**	**1,204,613**	-	-	-	142,413	595,879	414,515	**1,152,807**	0
		G - Administration	**2,479,132**	471,107	642,461	674,886	**1,788,453**	5 - Rationalize the administration area through the review of area used for storage of files and alternative means of storage - moveable shelving, digitized files	**50,000**	**2,479,132**	50,000	-	-	471,107	642,461	674,886	**1,788,453**	0
		H - Learning Resource Centre	**3,409,263**	634,907	1,727,111	901,060	**3,263,078**	1 - Secure IT facilities with server room and backup area	**40,000**	**3,484,263**	40,000	-	-	634,907	1,731,236	908,935	**3,275,078**	12,000
								3 - Toilets at MITC building - replace darkroom area with wc facilities accessible for weekend use	**35,000**		35,000	-	-					
		I - Agriculture	**763,190**	206,953	185,196	174,012	**566,161**	None	**0**	**763,190**	-	-	-	206,953	185,196	174,012	**566,161**	0
		J - A+ Centre	**660,973**	112,301	249,323	257,283	**618,907**	2 - Public community health interface building (Building 1)	**1,510,000**	**2,170,973**	1,510,000	-	-	112,301	332,373	415,833	**860,507**	241,600
		K - Student Services	**757,576**	137,092	364,545	213,581	**715,218**	9 - Relocate security within the campus (previous bookstore area)	**5,000**	**757,576**	5,000	-	-	137,092	364,545	213,581	**715,218**	0
		L - Gymnasium	**9,442,394**	2,218,838	2,464,238	587,104	**5,270,180**	6 - Upgrade the gymnasium building to provide facilities required for next 10 years - i.e. space cooling, water storage, solar panels	**400,000**	**9,842,394**	400,000	-	-	2,218,838	2,486,238	629,104	**5,334,180**	64,000
		M - Security, Maintenance, Bookstore & IT	**819,164**	218,177	334,722	175,925	**728,823**	8 - Consolidate bookstore and bookstore warehouse area	**20,000**	**819,164**	20,000	-	-	218,177	334,722	175,925	**728,823**	0
		N - Maintenance Shop, Offices & Music Rooms	**786,636**	206,238	328,173	143,585	**677,996**	None	**0**	**786,636**	-	-	-	206,238	328,173	143,585	**677,996**	0
		Site Infrastructure	**16,063,199**	1,264,817	1,122,912	3,205,750	**5,593,479**	7 - Increase disabled access across the site - access to both administration levels	**170,000**	**18,348,199**	170,000	-	-	1,264,817	1,158,662	3,346,500	**5,769,979**	176,500
								10 - Provide a covered pick up/ drop off space for taxis/ buses at main entry	**20,000**		20,000	-	-					
								12 - Landscape work, paths in connection with the new student services building	**265,000**		265,000	-	-					
								14 - Combined covered area for residential students	**115,000**		115,000	-	-					
								15 - Full outdoor Basketball court	**80,000**		80,000	-	-					
								15A - New sewerage leaching field	**135,000**		135,000	-	-					
								18 - Track and field / baseball facility including associated vehicle access and parking as well as pedestrian access	**1,000,000**		-	1,000,000	-					
								19 - Solar power generation	**500,000**		-	-	500,000					
		New Building - Two Level Student Services Building	**0**	0	0	0	**0**	11 - New two level student services building (Building 2)	**2,910,000**	**2,910,000**	2,910,000	-	-	0	160,050	305,550	**465,600**	465,600
		New Building - Quite Contemplation Place	**0**	0	0	0	**0**	16 - Quiet contemplation place for residential students - pastoral care	**50,000**	**50,000**	50,000	-	-	0	2,750	5,250	**8,000**	8,000
		New Building - Marine Science / Applied Research	**0**	0	0	0	**0**	17 - Marine science/ applied research building adjacent to the agriculture building (Building 3)	**2,035,000**	**2,035,000**	2,035,000	-	-	0	111,925	213,675	**325,600**	325,600
			48,669,850	**7,181,838**	**11,003,654**	**9,307,913**	**27,493,404**	**Total**	**9,410,000**	**57,934,850**	**7,910,000**	**1,000,000**	**500,000**	**7,181,838**	**11,423,304**	**10,181,563**	**28,786,704**	**1,293,300**

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Ref	**Campus**	**Building**	**Estimated Full Replacement Cost**	**Total Year 1-10 Operational Cost ($ USD)**	**Total Year 11-20 Operational Cost ($ USD)**	**Total Year 21-30 Operational Cost ($ USD)**	**Total Operational Cost ($ USD)**	**Master plan Initiative**	**Total Capital Improvements ($ USD)**	**Asset Value after Capital Improvements ($ USD)**	**When Implemented Period 1 Y1-10**	**When Implemented Period 2 Y11-20**	**When Implemented Not Yet Defined**	**Total Adjusted Year 1-10 Operational Cost ($ USD)**	**Total Adjusted Year 11-20 Operational Cost ($ USD)**	**Total Adjusted Year 21-30 Operational Cost ($ USD)**	**Total Adjusted Operational Cost ($ USD)**	**Variance from Previous Operational Cost Forecast ($ USD)**
5.00	Pohnpei Campus, Kolonia, Pohnpei State	A - Administration Building (A - Administration Building)	**1,088,205**	338,960	442,305	612,858	**1,394,123**	18 - Demolish administration building	**30,000**	**0**	-	30,000	-	0	0	0	**0**	-1,394,123
		B - HTM Classroom (H - Hotel and Tourism Building)	**755,156**	148,759	226,666	397,306	**772,731**	None	**0**	**755,156**	-	-	-	148,759	226,666	397,306	**772,731**	0
		D - Elect. Class. 8 & 9, Maths/Science Office (C - I.C. Building/Elect. Class.)	**716,125**	260,749	305,988	276,629	**843,366**	None	**0**	**716,125**	-	-	-	260,749	305,988	276,629	**843,366**	0
		E - Classroom 1 - 4 (D - Classroom Building A)	**1,383,281**	394,047	353,635	621,874	**1,369,555**	None	**0**	**1,383,281**	-	-	-	394,047	353,635	621,874	**1,369,555**	0
		F - Classroom 5 - 7 (J - Classroom Building B)	**482,528**	84,585	163,505	137,148	**385,238**	None	**0**	**482,528**	-	-	-	84,585	163,505	137,148	**385,238**	0
		G - Bookstore (B - Book Store)	**272,280**	97,770	52,410	169,856	**320,035**	11 - Demolish bookstore	**30,000**	**0**	30,000	-	-	0	0	0	**0**	-320,035
		H - Security Post (P - Security Shed)	**36,946**	27,684	15,424	17,385	**60,493**	None	**0**	**36,946**	-	-	-	27,684	15,424	17,385	**60,493**	0
		I - IT Shop (I - IT Shop)	**135,031**	48,676	32,597	68,715	**149,988**	None	**0**	**135,031**	-	-	-	48,676	32,597	68,715	**149,988**	0
		J - UB & TSP (K - Vocational Classrooms, TSP, UB, CES)	**3,252,698**	2,904,175	844,597	466,297	**4,215,069**	3 - Demolish Building K	**100,000**	**0**	100,000	-	-	0	0	0	**0**	-4,215,069
		K - PSBDC Building (O - PSBDC Building)	**3,661,355**	306,494	1,057,249	1,172,699	**2,536,442**	2 - Relocate building K functions (TRIO program) to top floor of PSBDC	**5,000**	**2,536,442**	5,000	-	-	306,494	1,057,249	1,172,699	**2,536,442**	0
								15 - Relocate Land Grant to top floor of PSBDC; re-landscape front of PSBDC	**175,000**		175,000	-	-					
		L - Electrical Shop (E - Electrical Building)	**492,770**	91,328	80,140	202,264	**373,731**	4 - Demolish the electronics building	**20,000**	**0**	20,000	-	-	0	0	0	**0**	-373,731
		M - Maintenance Shop (R - Maintenance Building)	**225,275**	46,663	69,953	140,324	**256,940**	None	**0**	**225,275**	-	-	-	46,663	69,953	140,324	**256,940**	0
		N - Gymnasium (G - Gymnasium)	**2,075,468**	149,301	375,299	754,334	**1,278,934**	None	**0**	**2,075,468**	-	-	-	149,301	375,299	754,334	**1,278,934**	0
		N - Student Services Centre (L - Student Services Centre)	**1,229,054**	276,068	305,802	360,913	**942,783**	None	**0**	**1,229,054**	-	-	-	276,068	305,802	360,913	**942,783**	0
		P - Mechanic Shop, Mechanic Store & AC Training Room (M - Mechanic Shop)	**594,313**	197,076	216,415	182,399	**595,889**	13 - Demolish mechanical building	**Included below**	**0**	Included below	-	-	0	0	0	**0**	-595,889
		Q - Carpentry Shops & Classrooms (F - Carpentry Shop)	**824,324**	140,972	209,334	221,507	**571,813**	13 - Demolish carpentry and mechanical building	**30,000**	**0**	30,000	-	-	0	0	0	**0**	-571,813
		Site Infrastructure	**1,850,095**	418,008	637,718	1,186,217	**2,241,943**	1 - Create a vehicle route through the campus for service access and service with fire hydrants, consider demolition of end of classroom building to route access around existing mahogany trees. Seating areas for small group or individual study.	**280,000**	**4,641,943**	280,000	-	-	418,008	687,218	1,318,117	**2,423,343**	181,400
								7 - Wifi connectivity	**Excl. Assumed Sep Budget**		Excl. Assumed Sep Budget	-	-					
								8 - Site works associated with the new technical education buildings including rationalizing vehicle access, parking lot, signage, pedestrian connections, perimeter and structured planting	**320,000**		320,000	-	-					
								9 - Create a public face for the upper campus with new signage and entry points	**25,000**		25,000	-	-					
								12 - Walkway connecting high level buildings to lower level access road, access route from elementary school to top of the site as an alternative access	**275,000**		275,000	-	-					
								16 - Turn around area in front of administration with a one way entry and exit	**50,000**		-	50,000	-					
								19 - Increased carpark area in the lower campus and landscaped small study area, outdoor volleyball area, eating space	**630,000**		-	630,000	-					
								20 - Solar power generation	**500,000**		-	-	500,000					
								21 - Works to increase drainage capacity - swales and subsoil drainage	**150,000**		-	-	150,000					
								22 - Fire fighting hydrants through site	**170,000**		-	-	170,000					
		New Building - Technical Education Classroom	**0**	0	0	0	**0**	5 - New technical education classroom building along the boundary on the upper campus (Building 1)	**1,530,000**	**1,530,000**	1,530,000	-	-	0	84,150	160,650	**244,800**	244,800
		New Building - Multi-Purpose Technical Education Building	**0**	0	0	0	**0**	6 - New multipurpose technical education building along the boundary on the upper campus (Building 2)	**1,525,000**	**1,525,000**	1,525,000	-	-	0	83,875	160,125	**244,000**	244,000
		New Building - LRC	**0**	0	0	0	**0**	10 - New facility for LRC	**1,160,000**	**1,160,000**	1,160,000	-	-	0	63,800	121,800	**185,600**	185,600
		New Building - Multi-Purpose Technical Education Building	**0**	0	0	0	**0**	14 - New multipurpose technical education building at the upper campus entry with area for maintenance and storage (Building 3)	**765,000**	**765,000**	765,000	-	-	0	42,075	80,325	**122,400**	122,400
		New Building - Administration & Faculty	**0**	0	0	0	**0**	17 - Two storey building at the front gate of the lower campus for administration and faculty (Building 4)	**4,870,000**	**4,870,000**	-	4,870,000	-	0	0	267,850	**267,850**	267,850
																	0	0
			19,074,905	**5,931,315**	**5,389,036**	**6,988,723**	**18,309,074**	**Total**	**12,640,000**	**24,067,250**	**6,240,000**	**5,580,000**	**820,000**	**2,161,034**	**3,867,236**	**6,056,193**	**12,084,463**	**-6,224,611**

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6.00	Kosrae Campus, Tofol, Kosrae State	A - Administration (A - Administration Building/Classrooms)	**891,039**	222,565	343,335	476,343	**1,042,244**	1 - IT server in a secure environment in the existing administration building	**40,000**	**0**	40,000	-	-	0	0	0	**0**	-1,042,244
								12B - Demolish administration building	**See Site Infrastructure**		See Site Infrastructure	-	-					
		B - Land Library & Voced Classrooms (J - Learning Res. & Career Dev.)	**1,288,460**	216,758	436,625	352,108	**1,005,491**	7 - Relocate carpentry and other voced functions to eastern end of Block J away from the main entry and LRC and retrofit space to faculty and/ or administration functions	**30,000**	**1,288,460**	30,000	-	-	216,758	436,625	352,108	**1,005,491**	0
								8 - Demolition of the toilet block at the eastern end of Classroom Building J	**5,000**		5,000	-	-					
								12A - Relocation and fitout of specialized science classroom and general classroom into Block J	**See Site Infrastructure**		See Site Infrastructure	-	-					
		C - Land Grant Office (B - Land Grant Building)	**474,369**	200,085	92,702	186,607	**479,394**	18 - Demo Building for New Learning Resource Center and associated landscape works, pedestrian connections	**See New Buildings**	**0**	-	See New Buildings	-	200,085	0	0	**200,085**	-279,309
		D - Bookstore (I - Bookstore)	**109,125**	35,549	33,242	30,617	**99,408**	10 - Demolition of Bookstore Building I and provide for a landscaped area (either active or passive recreation)	**See Site Infrastructure**	**0**	See Site Infrastructure	-	-	0	0	0	**0**	-99,408
		E - Small Business Development Centre (H - KSBDC Building)	**1,454,607**	205,140	359,566	511,488	**1,076,194**	None	**0**	**1,454,607**	-	-	-	205,140	359,566	511,488	**1,076,194**	0
		F - Faculty Office (C - Faculty Building)	**435,968**	101,674	90,557	126,006	**318,236**	9 - Demolition of Faculty Building C and upgrade surrounding vehicle access and carpark	**See Site Infrastructure**	**0**	See Site Infrastructure	-	-	0	0	0	**0**	-318,236
		G - Maintenance Shop (F - Maintenance Shop)	**60,386**	4,280	37,490	6,083	**47,852**	15 - Demolish existing maintenance office and building - landscape works along the streamside	**See Site Infrastructure**	**0**	See Site Infrastructure	-	-	0	0	0	**0**	-47,852
		H - Maintenance Office (G - Maintenance Office)	**134,062**	44,866	33,331	84,726	**162,923**	15 - Demolish existing maintenance office and building - landscape works along the streamside	**See Site Infrastructure**	**0**	See Site Infrastructure	-	-	0	0	0	**0**	-162,923
		I - Former Library - Rose Mackwelung Building (D - Rose Mackwelung Library)	**445,748**	97,302	170,344	250,099	**517,745**	None	**0**	**445,748**	-	-	-	97,302	170,344	250,099	**517,745**	0
		Research Lab (Off Camp)	**474,474**	63,923	179,500	164,176	**407,598**	None	**0**	**474,474**	-	-	-	63,923	179,500	164,176	**407,598**	0
		Toilet Block (attached to Lab Building Off Camp)	**191,197**	39,170	42,599	87,648	**169,417**	None	**0**	**191,197**	-	-	-	39,170	42,599	87,648	**169,417**	0
		Site Infrastructure	**1,219,786**	399,899	526,706	550,765	**1,477,371**	2 - Upgraded Wifi	**Excl. Assumed Sep Budget**	**5,479,786**	Excl. Assumed Sep Budget	-	-	399,899	668,056	851,415	**1,919,371**	442,000
								3 - Open side shelters for charging electronics and outdoor study (4 off)	**40,000**		40,000	-	-					
								5 - Site works associated with multifunctional entry building - carpark, streamside works along the length of the new building , landscaping, signage, pedestrian connections, perimeter and structured planting	**560,000**		560,000	-	-					
								6 - Recreational area - outdoor basketball/ volleyball space and associated landscape works	**150,000**		150,000	-	-					
								9 - Demolition of Faculty Building C and upgrade surrounding vehicle access and carpark	**290,000**		290,000	-	-					
								10 - Demolition of Bookstore Building I and provide for a landscaped area (either active or passive recreation)	**110,000**		110,000	-	-					
								12A, B & C - Relocation and fitout of specialized science classroom and general classroom into Block J. Demolish old specialized science classroom and landscape area left behind with trees and study huts	**220,000**		220,000	-	-					
								13 - Pedestrian bridge across to southern streamside bank and level area for covered open sided multipurpose drama/ recreation space - ability to seat up to 300 (Building 5) Potential for additional long term facilities at Stage 2	**1,050,000**		1,050,000	-	-					
								15 - Demolish existing maintenance office and building - landscape works along the streamside	**150,000**		150,000	-	-					
								18 - Associated landscaping with the LRC - paths, shrubs, seating	**560,000**		-	560,000	-					
								20 - Provide facility for on site water supply	**530,000**		-	-	530,000					
								21 - Solar power generation	**500,000**		-	-	500,000					
								22 - Investigate and reroute power lines across the site	**50,000**		-	-	50,000					
								23 - Works to increase drainage capacity - swales and subsoil drainage	**50,000**		-	-	50,000					
		New Building - Multi-Functional Building (Stage 1 - Two Storey Building)	**0**	0	0	0	**0**	4 - Consolidate student services functions in a multifunctional building (Building 1 - stage 1 two storey building)	**3,280,000**	**3,280,000**	3,280,000	-	-	0	180,400	344,400	**524,800**	524,800
		New Building - Multi-Functional Building (Stage 2 - Two Storey Building)	**0**	0	0	0	**0**	11 - Stage 2 of the entry multipurpose building with faculty and administration functions added to building (Building 1)	**1,050,000**	**1,050,000**	1,050,000	-	-	0	57,750	110,250	**168,000**	168,000
		New Building - Storage & Maintenance Building	**0**	0	0	0	**0**	14 - New storage and maintenance building (Building 2)	**400,000**	**400,000**	400,000	-	-	0	22,000	42,000	**64,000**	64,000
		New Building - CRE Extension	**0**	0	0	0	**0**	16 - New CRE - extension building (Building 3) either at research building site or in the community interface activity zone (2 storey)	**1,310,000**	**1,310,000**	-	1,310,000	-	0	0	72,050	**72,050**	72,050
		New Building - Learning Resource Center	**0**	0	0	0	**0**	17 - New Learning Resource Center (Building 4) and associated landscape works, pedestrian connections (2 storey)	**2,525,000**	**2,525,000**	-	2,525,000	-	0	0	138,875	**138,875**	138,875
																	0	0
			7,179,222	**1,631,210**	**2,345,998**	**2,826,665**	**6,803,873**	**Total**	**12,900,000**	**17,899,272**	**7,375,000**	**4,395,000**	**1,130,000**	**1,222,277**	**2,116,840**	**2,924,509**	**6,263,626**	**-540,248**
			93,030,402	**19,549,997**	**24,745,807**	**25,883,857**	**70,179,661**	**Grand Total**	**73,968,000**	**154,612,323**	**51,408,000**	**17,860,000**	**4,700,000**	**13,453,220**	**22,784,420**	**26,711,882**	**62,949,523**	**-7,230,138**

Appendix E

Spatial Utilization and Facilities Master Plan Study Rough Order of Cost Estimates

	COM-FSM Space Utilization and Facilities Study Rough Order of Cost Estimate Summary - All Campuses (November 2013) All Projects	Buildings, Services & Siteworks $USD (2013 cost)	Allowance for Fit-out $USD (2013 cost)	TOTAL $USD (2013 cost)	Allowance for Escalation (3.4% pa)	TOTAL Escalated Cost $USD
a	These are 'rough order of cost' estimates based on highly conceptual information and have an accuracy range that is no better than +/-20%. All estimates need to be confirmed prior to funding application & construction					
b	Fit-out costs (desks, chairs & loose furniture only) assumed at $10/ft2					
c	No allowance for data projectors, screens, computers, printers, photo-copiers etc					
d	Architectural & Engineering fees and contingency allowances have been included					
e	Escalation has been assumed at the rate of 3.4% per annum. November 2013 has been used as the base date for escalation.					
f	Property purchase or leasing costs are excluded					
g	Taxes, duties and fees are excluded on all projects					
	CoM (all Campuses) 5 year period to 2018					
	Yap	3,205,000	100,000	3,305,000	137,000	3,442,000
	FSM - FMI	1,438,000	40,000	1,478,000	60,000	1,538,000
	Chuuk	19,035,000	645,000	19,680,000	799,000	20,479,000
	National	5,665,000	160,000	5,825,000	238,000	6,063,000
	Pohnpei	4,955,000	145,000	5,100,000	225,000	5,325,000
	Kosrae	4,450,000	120,000	4,570,000	175,000	4,745,000
	TOTAL CoM (All Campuses) 5 Year Period to 2018	**38,748,000**	**1,210,000**	**39,958,000**	**1,634,000**	**41,592,000**
	CoM (All Campuses) 10 year vision (2019 to 2023)					
	Yap	4,120,000	230,000	4,350,000	214,000	4,564,000
	FSM - FMI	725,000	35,000	760,000	37,000	797,000
	Chuuk	4,235,000	135,000	4,370,000	205,000	4,575,000
	National	2,075,000	75,000	2,150,000	102,000	2,252,000
	Pohnpei	945,000	25,000	970,000	46,000	1,016,000
	Kosrae	2,880,000	55,000	2,935,000	145,000	3,080,000
	TOTAL All Campuses - 10 year vision (2019 to 2023)	**14,980,000**	**555,000**	**15,535,000**	**749,000**	**16,284,000**
	CoM (All Campuses) Long term vision (Beyond 2023)					
	Yap	4,375,000	100,000	4,475,000	215,000	4,690,000
	FSM - FMI	740,000	0	740,000	35,000	775,000
	Chuuk	0	0	0	0	0
	National	1,000,000	0	1,000,000	50,000	1,050,000
	Pohnpei	5,410,000	170,000	5,580,000	265,000	5,845,000
	Kosrae	4,555,000	200,000	4,755,000	231,000	4,986,000
	TOTAL All Campuses - Long Term Vision (Beyond 2023)	**16,080,000**	**470,000**	**16,550,000**	**796,000**	**17,346,000**
	CoM (All Campuses) Further Projects					
	Yap	600,000	0	600,000	35,000	635,000
	FSM - FMI	1,150,000	0	1,150,000	55,000	1,205,000
	Chuuk	500,000	0	500,000	25,000	525,000
	National	500,000	0	500,000	25,000	525,000
	Pohnpei	820,000	0	820,000	50,000	870,000
	Kosrae	1,130,000	0	1,130,000	55,000	1,185,000
	TOTAL CoM (All Campuses) Future Projects	**4,700,000**	**0**	**4,700,000**	**245,000**	**4,945,000**
	GRAND TOTAL (All Campuses)	**74,508,000**	**2,235,000**	**76,743,000**	**3,424,000**	**80,167,000**

	COM-FSM Space Utilization and Facilities Study Rough Order of Cost Estimate Summary - Yap Campus (November 2013)	Limitations, Assumptions, Inclusions & Exclusions	Unit	Quantity	Rate $USD	Buildings, Services & Siteworks $USD (2013 cost)	Allowance for Fit-out $USD (2013 cost)	TOTAL $USD (2013 cost)	Allowance for Escalation (3.4% pa)	TOTAL Escalated Cost $USD
	All Projects									
a	These are 'rough order of cost' estimates based on highly conceptual information and have an accuracy range that is no better than +/-20%. All estimates need to be confirmed prior to funding application & construction									
b	Fit-out costs (desks, chairs & loose furniture only) assumed at $10/ft2									
c	No allowance for data projectors, screens, computers, printers, photo-copiers etc									
d	Architectural & Engineering fees and contingency allowances have been included									
e	Escalation has been assumed at the rate of 3.4% per annum. November 2013 has been used as the base date for escalation.									
f	Property purchase or leasing costs are excluded									
g	Taxes, duties and fees are excluded on all projects									
	Yap 5 year period to 2018									
1	Formed paths providing direct connection between buildings through the centre of the campus	Assume 10ft wide concrete path (uncovered)		700		65,000	0	65,000	3,000	**68,000**
		10ft wide concrete path & uncovered walkway	*ft*	*700*	*69*	*48,018*				
		A & E allowance	*%*	*48,018*	*0.15*	*7,203*				
		Sub-total				*55,221*				
		Contingency allowance	*%*	*55,221*	*0.15*	*8,283*				
		Rounding				*1,496*				
		Total Formed Paths				***65,000***				
2	Refit computer classroom for combined upward bound and computer lab	Assume nominal wall change only. Allow $20K including fees & contingency				20,000	0	20,000	1,000	**21,000**
3	Access to boundary carpark - southern boundary					440,000	0	440,000	20,000	**460,000**
		Carparks	*No*	*40*	*3,500*	*140,000*	-			
		Additional pavement area	*ft2*	*7,100*	*11*	*78,102*				
		Entry & Exit crossings	*No*	*1*	*5,000*	*5,000*	-			
		Footpaths assume 5ft wide	*ft*	*500*	*20*	*10,000*	-			
		Kerb & channel	*ft*	*1,000*	*15*	*15,244*				
		Allowance for drainage to car park	*LS*	*1*	*20,000*	*20,000*	-			
		Allowance for additional earthworks	*LS*	*1*	*20,000*	*20,000*	-			
		Allowance for perimeter fencing	*ft*	*500*	*50*	*25,000*				
		Allowance for carpark lighting	*No*	*4*	*5,000*	*20,000*	-			
						333,346				
		A & E allowance	*%*	*333,346*	*0.15*	*50,002*				
		Sub-total				*383,348*				
		Contingency allowance	*%*	*383,348*	*0.15*	*57,502*				
		Rounding				*- 850*				
		Total South Boundary carpark				***440,000***				
4	Fence around German Tower - if required					15,000	0	15,000	1,000	**16,000**
		Chainlink fence assume 50ft x 50ft compound	*ft*	*200*	*46*	*9,146*				
		Allow for gate	*No*	*1*	*2,000*	*2,000*				
						11,146				
		A & E allowance	*%*	*11,146*	*0.15*	*1,672*				
		Sub-total				*12,818*				
		Contingency allowance	*%*	*12,818*	*0.15*	*1,923*				
		Rounding				*259*				

		Total Fencing to German Tower				***15,000***				
5	New VOCED building and maintenance facility	Building area excludes covered ways	ft2	6800		2,360,000	100000	2,460,000	100,000	**2,560,000**
		Building area excludes covered ways	*ft2*	*6,800*	*240*	*1,633,739*				
		Allowance for earthworks, siteworks & drainage	*LS*	*1*	*150,000*	*150,000*				
		Sub-total				*1,783,739*				
		A&E allowance	*%*	*1,783,739*	*0.15*	*267,561*				
						2,051,299				
		Contingency allowance	*%*	*2,051,299*	*0.15*	*307,695*				
		Rounding				*1,006*				
		Total VOCED Building				***2,360,000***				
		Fit-out - assume $10/ft2	*ft2*	*6,800*	*10*	*68,000*				
		A&E allowance	*%*	*68,000*	*0.15*	*10,200*				
						78,200				
		Contingency allowance	*%*	*78,200*	*0.15*	*11,730*				
		Rounding				*10,070*				
		Total VOCED Fit-out				***100,000***				
6	Create hard court area near Student Services building , 2 study huts and landscaping	Assume 1500fts of hard paving				40,000	0	40,000	2,000	**42,000**
		Shelter structure & roof	*No*	*2*	*5,000*	*10,000*				
		Allowance for solar panel & wiring	*No*	*2*	*1,500*	*3,000*				
		Allowance for picnic table	*No*	*2*	*500*	*1,000*				
		Allowance for landscaping	*LS*	*1*	*5,000*	*5,000*				
		Hard paving	*ft2*	*1,500*	*7*	*10,452*				
						29,452				
		A & E allowance	*%*	*29,452*	*0.15*	*4,418*				
		Sub-total				*33,869*				
		Contingency allowance	*%*	*33,869*	*0.15*	*5,080*				
		Rounding				*1,050*				
		Total Hard Court & Study Huts				***40,000***				
7	Implement a landscape plan across the campus	Assume $200K base cost plus fees & contingency				265,000	0	265,000	10,000	**275,000**
		Allowance for landscaping	*LS*	*1*	*200,000*	*200,000*				
						200,000				
		A & E allowance	*%*	*200,000*	*0.15*	*30,000*				
		Sub-total				*230,000*				
		Contingency allowance	*%*	*230,000*	*0.15*	*34,500*				
		Rounding				*500*				
		Total Landscape Plan across campus				***265,000***				
	TOTAL Yap 5 Year Period to 2018					**3,205,000**	**100,000**	**3,305,000**	**137,000**	**3,442,000**
	Yap 10 year vision (2019 to 2023)									
8	Demolish computer lab building	Assume $30K	No	1	30000	30,000	0	30,000	2,000	**32,000**
9	New administration and faculty building on computer lab site		ft2	4100		1,610,000	110000	1,720,000	80,000	**1,800,000**
		Building area excludes covered ways	*ft2*	*4,100*	*260*	*1,065,328*				
		Allowance for earthworks, siteworks & drainage	*LS*	*1*	*150,000*	*150,000*				

			Sub-total			*1,215,328*				
			A&E allowance	*%*	*1,215,328*	*0.15*	*182,299*			
							1,397,627			
			Contingency allowance	*%*	*1,397,627*	*0.15*	*209,644*			
			Rounding				*2,729*			
			Total Admin & Faculty Building				***1,610,000***			
			Fit-out - assume $10/ft2	*ft2*	*4,100*	*10*	*41,000*			
			Allow extra for admin fit-out	*ft2*	*4,100*	*10*	*41,000*			
			A&E allowance	*%*	*82,000*	*0.15*	*12,300*			
							94,300			
			Contingency allowance	*%*	*94,300*	*0.15*	*14,145*			
			Rounding				*1,555*			
			Total Admin & Faculty Fit-out				***110,000***			
10	Demolish administration building	Assume $30K	No		1	30000	30,000	0	30,000	2,000	**32,000**
11	New LRC and computer lab on previous administration site	Building area excludes covered ways	ft2		4600		1,800,000	100,000	1,900,000	100,000	**2,000,000**
		Building area excludes covered ways	*ft2*		*4,600*	*260*	*1,195,246*				
		Allowance for earthworks, siteworks & drainage	*LS*		*1*	*150,000*	*150,000*				
			Sub-total				*1,345,246*				
			A&E allowance	*%*	*1,345,246*	*0.15*	*201,787*				
							1,547,033				
			Contingency allowance	*%*	*1,547,033*	*0.15*	*232,055*				
			Rounding				*20,912*				
			Total LRC & Computer Lab Building				***1,800,000***				
			Fit-out - assume $10/ft2	*ft2*	*4,600*	*10*	*46,000*				
			Allow extra for computer lab fit-oout	*ft2*	*4,600*	*5*	*23,000*				
			A&E allowance	*%*	*69,000*	*0.15*	*10,350*				
							79,350				
			Contingency allowance	*%*	*79,350*	*0.15*	*11,903*				
			Rounding				*8,747*				
			Total LRC & Computer Lab Fit-out				***100,000***				
12	New CRE extension to CRE building	Building area excludes covered ways	ft2		1500		650,000	20,000	670,000	30,000	**700,000**
		Building area excludes covered ways	*ft2*		*1,500*	*260*	*389,754*				
		Allowance for landscaping & paths	*LS*		*1*	*50,000*	*50,000*				
		Allowance for earthworks, siteworks & drainage	*LS*		*1*	*50,000*	*50,000*				
			Sub-total				*489,754*				
			A&E allowance	*%*	*489,754*	*0.15*	*73,463*				
							563,217				
			Contingency allowance	*%*	*563,217*	*0.15*	*84,483*				
			Rounding				*2,300*				
			Total CRE Extension to CRE Building				***650,000***				
			Fit-out - assume $10/ft2	*ft2*	*1,500*	*10*	*15,000*				
			A&E allowance	*%*	*15,000*	*0.15*	*2,250*				
							17,250				
			Contingency allowance	*%*	*17,250*	*0.15*	*2,588*				
			Rounding				*162*				
			Total CRE Extension to CRE Fit-out				***20,000***				

TOTAL Yap 10 Year Vision (2019 to 2023)					**4,120,000**	**230,000**	**4,350,000**	**214,000**	**4,564,000**
Yap Long term vision - beyond 2023									
13 Relocate basketball hardcourt area	Assumes 1No court x 4,700ft2. Excludes roof covering and lighting	No			85,000	0	85,000	5,000	**90,000**
	Concrete court	*ft2*	*4,700*	*8*	*37,600*				
	Allowance for landscaping & nominal seating	*LS*	*1*	*10,000*	*10,000*				
	Allowance for backboards etc	*LS*	*1*	*17,111*	*17,111*				
	Sub-total				*64,711*				
	A&E allowance	*%*	*64,711*	*0.15*	*9,707*				
					74,418				
	Contingency allowance	*%*	*74,418*	*0.15*	*11,163*				
	Rounding				*- 580*				
	Total Relocation of Basketball Court				***85,000***				
14 Additional new classroom block between student centre and classroom block (Building 6)					1,300,000	40,000	1,340,000	60,000	**1,400,000**
	Building area excludes covered ways	*ft2*	*3,000*	*240*	*720,767*				
	Allowance for landscaping & paths	*LS*	*1*	*100,000*	*100,000*				
	Allowance for earthworks, siteworks & drainage	*LS*	*1*	*150,000*	*150,000*				
	Sub-total				*970,767*				
	A&E allowance	*%*	*970,767*	*0.15*	*145,615*				
					1,116,382				
	Contingency allowance	*%*	*1,116,382*	*0.15*	*167,457*				
	Rounding				*16,161*				
	Total New Classroom Block				***1,300,000***				
	Fit-out - assume $10/ft2	*ft2*	*3,000*	*10*	*30,000*				
	A&E allowance	*%*	*30,000*	*0.15*	*4,500*				
					34,500				
	Contingency allowance	*%*	*34,500*	*0.15*	*5,175*				
	Rounding				*325*				
	Total New Classroom Fit-out				***40,000***				
15 New gymnasium					1,930,000	0	1,930,000	90,000	**2,020,000**
	Building area - roof only with open sides - assume Basketball court plus 50% coverage	*ft2*	*7,050*	*140*	*989,491*				
	Concrete basketball court (uncovered)	*ft2*	*4,700*	*11*	*52,397*				
	Allowance for basketball hoops & courtmarking	*LS*	*1*	*15,000*	*15,000*				
	Allowance for toilet & changing facilities	*LS*	*1*	*150,000*	*150,000*				
	Allowance for landscaping & paths	*LS*	*1*	*100,000*	*100,000*				
	Allowance for earthworks, siteworks & drainage	*LS*	*1*	*150,000*	*150,000*				
	Sub-total				*1,456,888*				
	A&E allowance	*%*	*1,456,888*	*0.15*	*218,533*				
					1,675,422				
	Contingency allowance	*%*	*1,675,422*	*0.15*	*251,313*				
	Rounding				*3,265*				

	Total New Gymnasium				***1,930,000***				
16 New CRE - Research wing			2300		1,060,000	60000	1,120,000	60,000	**1,180,000**
	Building area excludes covered ways	*ft2*	*2,300*	*260*	*597,623*				
	Allowance for landscaping & paths	*LS*	*1*	*50,000*	*50,000*				
	Allowance for earthworks, siteworks & drainage	*LS*	*1*	*150,000*	*150,000*				
	Sub-total				*797,623*				
	A&E allowance	*%*	*797,623*	*0.15*	*119,643*				
					917,267				
	Contingency allowance	*%*	*917,267*	*0.15*	*137,590*				
	Rounding				*5,143*				
	Total New CRE Research Wing Building				***1,060,000***				
	Fit-out - assume $10/ft2	*ft2*	*2,300*	*10*	*23,000*				
	Allow additional fit-out for Research area	*ft2*	*2,300*	*10*	*23,000*				
	A&E allowance	*%*	*46,000*	*0.15*	*6,900*				
					52,900				
	Contingency allowance	*%*	*52,900*	*0.15*	*7,935*				
	Rounding				*- 835*				
	Total New CRE Research Wing Fit-out				***60,000***				
TOTAL Yap Long Term Vision (Beyond 2023)					**4,375,000**	**100,000**	**4,475,000**	**215,000**	**4,690,000**
Further projects (not in order of priority)									
Relocate power poles servicing other properties	Assume $50K including fees & contingency	LS	1	50000	50,000	0	50,000	5,000	**55,000**
Solar power generation	Assume $500K including associated buildings, fees and contingency	LS	1	500,000	500,000	0	500,000	25,000	525,000
Works to increase drainage capacity - swales and subsoil drainage	Assume $50K including fees & contingency	LS	1	50000	50,000	0	50,000	5,000	**55,000**
TOTAL Future Projects (Yap)					**600,000**	**0**	**600,000**	**35,000**	**635,000**
GRAND TOTAL YAP CAMPUS									
TOTAL Yap 5 Year Period to 2018					3,205,000	100,000	3,305,000	137,000	3,442,000
TOTAL Yap 10 Year Vision (2019 to 2023)					4,120,000	230,000	4,350,000	214,000	4,564,000
TOTAL Yap Long Term Vision (Beyond 2023)					4,375,000	100,000	4,475,000	215,000	4,690,000
TOTAL Future Projects (Yap)					600,000	0	600,000	35,000	635,000
GRAND TOTAL YAP CAMPUS					**12,300,000**	**430,000**	**12,730,000**	**601,000**	**13,331,000**

	COM-FSM Space Utilization and Facilities Study Rough Order of Cost Estimate Summary - FSM - FMI Campus (November 2013)	Limitations, Assumptions, Inclusions & Exclusions	Unit	Quantity	Rate $USD	Buildings, Services & Siteworks $USD (2013 cost)	Allowance for Fit-out $USD (2013 cost)	TOTAL $USD (2013 cost)	Allowance for Escalation (3.4% pa)	TOTAL Escalated Cost $USD
	All Projects									
a	These are 'rough order of cost' estimates based on highly conceptual information and have an accuracy range that is no better than +/-20%. All estimates need to be confirmed prior to funding application & construction									
b	Fit-out costs (desks, chairs & loose furniture only) assumed at $10/ft2									
c	No allowance for data projectors, screens, computers, printers, photo-copiers etc									
d	Architectural & Engineering fees and contingency allowances have been included									
e	Escalation has been assumed at the rate of 3.4% per annum. November 2013 has been used as the base date for escalation.									
f	Property purchase or leasing costs are excluded									
g	Taxes, duties and fees are excluded on all projects									
	FSM - FMI 5 year period to 2018									
1	Address provision of fire fighting facilities									
	Fire fighting hydrants through site	Assumes use of existing storage tanks				165,000	0	165,000	5,000	**170,000**
		Fire main - length assumed	*ft*	*1,500*	*40*	*60,000*	-			
		Fire hydrant - assume at 300ft intervals	*No*	*6*	*2,000*	*12,000*	-			
		Allowance for pumps, electrical & pipework	*LS*	*1*	*50,000*	*50,000*				
		Sub-Total				*122,000*				
		A & E allowance	*%*	*122,000*	*0.15*	*18,300*				
		Sub-total				*140,300*				
		Contingency allowance	*%*	*140,300*	*0.15*	*21,045*				
		Rounding				*3,655*				
		Total Fire Mains & Hydrants				***165,000***				
2	New duplex residence for instructors in the residential zone	*Building area excludes covered ways*	ft2	2,800		800,000	40,000	840,000	35,000	**875,000**
		Building area excludes covered ways	*ft2*	*2,800*	*208*	*583,478*				
		Allowance for earthworks, siteworks & drainage	*LS*	*1*	*20,000*	*20,000*				
		Sub-total				*603,478*				
		A&E allowance	*%*	*603,478*	*0.15*	*90,522*				
						694,000				
		Contingency allowance	*%*	*694,000*	*0.15*	*104,100*				
		Rounding				*1,900*				
		Total Duplex Residence Building				***800,000***				
		Fit-out - assume $10/ft2	*ft2*	*2,800*	*10*	*28,000*				
		A&E allowance	*%*	*28,000*	*0.15*	*4,200*				
						32,200				
		Contingency allowance	*%*	*32,200*	*0.15*	*4,830*				
		Rounding				*2,970*				
		Total Duplex Residence Fit-out				***40,000***				
3	Relocate women's quarters into the north eastern end of Administration Building A and add conference room and administration office to area vacated by the residence.	Assume 2No toilets & 2No. Showers fitted into existing room with existing plumbing				40,000	0	40,000	2,000	**42,000**
		Toilets, showers & whb	*No*	*2*	*10,000*	*20,000*				
		Allowance for partitions and fit-out	*LS*	*1*	*10,000*	*10,000*				
		Sub-total				*30,000*				
		A&E allowance	*%*	*30,000*	*0.15*	*4,500*				
						34,500				

		Contingency allowance	*%*	*34,500*	*0.15*	*5,175*				
		Rounding				*325*				
		Total Relocate Women's Quarters				***40,000***				
4	Remove wall between men's and previous women's quarters. Move men's quarters to the north and utilise the southern quarters as library study space	Assume $5K including fees & Contingency				5,000	0	5,000	0	**5,000**
5	Increase computer room to incorporate former library space in Building C	Assume $3K including fees & Contingency to form opening in existing wall (no door required)				3,000	0	3,000	0	**3,000**
6	Separate server room from IT office (within existing building envelope)	New partition, door & A/C unit assumed		1		20,000	0	20,000	1,000	**21,000**
		New partition & door	*No*	*1*	*10,000*	*10,000*				
		Allowance for fan coil unit & server room electrical	*No*	*1*	*5,000*	*5,000*				
						15,000				
		A & E allowance	*%*	*15,000*	*0.15*	*2,250*				
		Sub-total				*17,250*				
		Contingency allowance	*%*	*17,250*	*0.15*	*2,588*				
		Rounding				*162*				
		Total IT Server Room				***20,000***				
7	Provide covered access over classroom doors to Building C, new cadet toilet block next to Seaman's shelter and rationalise location of the access path	*10 x 6ft canopy attached to existing building (2No.)*				60,000	0	60,000	2,000	**62,000**
		10 x 6ft canopy attached to existing building (2No.)	*No*	*2*	*3,500*	*7,000*				
		Allowance for partitions, doors & refurbishment of existing space	*LS*	*1*	*18,000*	*18,000*				
		New Cadet block toilet (2 WC's , 1 shower & 2 WHB)	*LS*	*1*	*15,000*	*15,000*				
		Allowance for new drainage line	*LS*	*1*	*5,000*	*5,000*				
						45,000				
		A & E allowance	*%*	*45,000*	*0.15*	*6,750*				
		Sub-total				*51,750*				
		Contingency allowance	*%*	*51,750*	*0.15*	*7,763*				
		Rounding				*487*				
		TotalCovered Access & Cadet Toilet				***60,000***				
8	Upgrade below ground services - drainage and water supply	Assume $200K including fees and contingency				200,000	0	200,000	10,000	**210,000**
9	Storage for maintenance materials (potentially a container type facility)	Assume $10K for container & base slab				10,000	0	10,000	-	**10,000**
10	Address the current sewage system and leaching field	Assume $100K for modification & extension of existing system				135,000	0	135,000	5,000	**140,000**

	Allowance for leaching field	*LS*	*1*	*100,000*	*100,000*				
					100,000				
	A & E allowance	*%*	*100,000*	*0.15*	*15,000*				
	Sub-total				*115,000*				
	Contingency allowance	*%*	*115,000*	*0.15*	*17,250*				
	Rounding				*2,750*				
	Total Sewage System				***135,000***				
TOTAL FSM-FMI 5 Year Period to 2018					**1,438,000**	**40,000**	**1,478,000**	**60,000**	**1,538,000**
FSM - FMI 10 year vision (2019 to 2023)									
11 New classroom/ study space with covered access connecting to residential quarters	*Building area excludes covered ways*	ft2	1,200		450,000	15,000	465,000	20,000	**485,000**
	Building area excludes covered ways	*ft2*	*1,200*	*240*	*288,307*				
	Allowance for earthworks, siteworks & drainage	*LS*	*1*	*50,000*	*50,000*				
	Sub-total				*338,307*				
	A&E allowance	*%*	*338,307*	*0.15*	*50,746*				
					389,053				
	Contingency allowance	*%*	*389,053*	*0.15*	*58,358*				
	Rounding				*2,589*				
	Total New Classroom/Study Space Building				***450,000***				
	Fit-out - assume $10/ft2	*ft2*	*1,200*	*10*	*12,000*				
	A&E allowance	*%*	*12,000*	*0.15*	*1,800*				
					13,800				
	Contingency allowance	*%*	*13,800*	*0.15*	*2,070*				
	Rounding				*- 870*				
	Total New Classroom/Study Space Fit-out				***15,000***				
12 Improve shop areas by constructing a stand alone engineering shop area	Assume portal frame with mesh sides industrial building	ft2	1,400		245,000	20,000	265,000	15,000	**280,000**
	Building area excludes covered ways	*ft2*	*1,400*	*110*	*154,676*				
	Allowance for earthworks, siteworks & drainage	*LS*	*1*	*30,000*	*30,000*				
	Sub-total				*184,676*				
	A&E allowance	*%*	*184,676*	*0.15*	*27,701*				
					212,377				
	Contingency allowance	*%*	*212,377*	*0.15*	*31,857*				
	Rounding				*766*				
	Total Maintenance Building				***245,000***				
	Fit-out - assume $10/ft2	*ft2*	*1,400*	*10*	*14,000*				
	A&E allowance	*%*	*14,000*	*0.15*	*2,100*				
					16,100				
	Contingency allowance	*%*	*16,100*	*0.15*	*2,415*				
	Rounding				*1,485*				
	Total Maintenance Fit-out				***20,000***				
13 New security post	Assume $30K including fees & contingency. Excludes security alarm & video monitoring system	No	1	30,000	30,000	0	30,000	2,000	**32,000**
TOTAL FSM - FMI 10 Year Vision (2019 to 2023)					**725,000**	**35,000**	**760,000**	**37,000**	**797,000**

	FSM - FMI Long term vision - beyond 2023									
14	Covered recreation area (over basketball court) for drills	*Assume 5,000ft2 cover with open sides*	ft2	5,000		740,000	0	740,000	35,000	**775,000**
		Allowance for covered open space	*ft2*	*5,000*	*111*	*557,414*				
		Sub-total				*557,414*				
		A&E allowance	*%*	*557,414*	*0.15*	*83,612*				
						641,026				
		Contingency allowance	*%*	*641,026*	*0.15*	*96,154*				
		Rounding				*2,821*				
		Total Covered Recreation Area				***740,000***				
	TOTAL FSM-FMI Long Term Vision (Beyond 2023)					**740,000**	**0**	**740,000**	**35,000**	**775,000**
	Further projects (not in order of priority)									
	Provide facility for on-site water supply	Assume $350K including fees & contingency	LS	1	350,000	350,000	0	350,000	15,000	**365,000**
	Solar power generation	Assume $500K including associated buildings, fees and contingency	LS	1	500,000	500,000	0	500,000	25,000	525,000
	Work with State Government to investigate rerouting the main road to the south of the classroom Building C	Assume $200K including fees & contingency	LS	1	200,000	200,000	0	200,000	10,000	**210,000**
	Works to increase drainage capacity - swales and subsoil drainage	Assume $100K including fees & contingency	LS	1	100,000	100,000	0	100,000	5,000	**105,000**
	TOTAL Future Projects (FSM-FMI)					**1,150,000**	**0**	**1,150,000**	**55,000**	**1,205,000**
	GRAND TOTAL FSM - FMI CAMPUS									
	TOTAL FSM - FMI 5 Year Period to 2018					1,438,000	40,000	1,478,000	60,000	1,538,000
	TOTAL FSM - FMI 10 Year Vision (2019 to 2023)					725,000	35,000	760,000	37,000	797,000
	TOTAL FSM - FMI Long Term Vision (Beyond 2023)					740,000	0	740,000	35,000	775,000
	TOTAL Future Projects (FSM - FMI)					1,150,000	0	1,150,000	55,000	1,205,000
	GRAND TOTAL FSM - FMI CAMPUS					**4,053,000**	**75,000**	**4,128,000**	**187,000**	**4,315,000**

	COM-FSM Space Utilization and Facilities Study Rough Order of Cost Estimate Summary - Chuuk Campus (November 2013)	Limitations, Assumptions, Inclusions & Exclusions	Unit	Quantity	Rate $USD	Buildings, Services & Siteworks $USD (2013 cost)	Allowance for Fit-out $USD (2013 cost)	TOTAL $USD (2013 cost)	Allowance for Escalation (3.4% pa)	TOTAL Escalated Cost $USD
	All Projects									
a	These are 'rough order of cost' estimates based on highly conceptual information and have an accuracy range that is no better than +/-20%. All estimates need to be confirmed prior to funding application & construction									
b	Fit-out costs (desks, chairs & loose furniture only) assumed at $10/ft2									
c	No allowance for data projectors, screens, computers, printers, photo-copiers etc									
d	Architectural & Engineering fees and contingency allowances have been included									
e	Escalation has been assumed at the rate of 3.4% per annum. November 2013 has been used as the base date for escalation.									
f	Property purchase or leasing costs are excluded									
g	Relocation costs of staff, fitting s and equipment to the proposed Nabtuku site are excluded									
h	Any demolition or holding costs of the Nepukos Weno site (after relocation to proposed Nantuku site) are excluded									
i	Taxes, duties and fees are excluded on all projects									
	Chuuk 5 year period to 2018 - assumes interim upgrades prior to move to a permanent site									
1	Extend campus to the north, fence perimeter and create a coral base carpark area with an entry and exit onto the main road	Assumes 500ft of perimeter fence	Parks	26		210,000	0	210,000	10,000	**220,000**
		Carparks	*No*	*26*	*3,500*	*91,000*				
		Entry & Exit crossings	*No*	*2*	*2,500*	*5,000*				
		Footpaths assume 5ft wide	*ft*	*300*	*20*	*6,000*				
		Allowance for drainage to car park	*LS*	*1*	*10,000*	*10,000*				
		Allowance for additional earthworks	*LS*	*1*	*10,000*	*10,000*				
		Allowance for perimeter fencing	*ft*	*500*	*50*	*25,000*				
		Allowance for carpark lighting	*No*	*2*	*5,000*	*10,000*				
						157,000				
		A & E allowance	*%*	*157,000*	*0.15*	*23,550*				
		Sub-total				*180,550*				
		Contingency allowance	*%*	*180,550*	*0.15*	*27,083*				
		Rounding				*2,367*				
		Total Extension to North				***210,000***				
2	Restrict cars to campus, designate carpark area for visitors, create a central grassed area, 2 study huts on the coastal edge					100,000	0	100,000	5,000	**105,000**
		Allow to form landscaped grass area	*LS*	*1*	*50,000*	*50,000*				
		Study hut (traditional thatched roof), solar panel & picnic table	*No*	*2*	*7,000*	*14,000*				
		Allowance for paths	*LS*	*1*	*5,000*	*5,000*				
						69,000				
		A & E allowance	*%*	*69,000*	*0.15*	*10,350*				
		Sub-total				*79,350*				
		Contingency allowance	*%*	*79,350*	*0.15*	*11,903*				
		Rounding				*8,747*				
		Total Extension to North				***100,000***				
3	Retrofit a classroom with a science bench and plumbing					80,000	0	80,000	3,000	**83,000**
		Relocate existing benches and fume cupboard to Block J including new plumbing, electrical & bottled gas	*LS*	*1*	*50,000*	*50,000*				

		Allowance for refurbishment of new science classroom	*LS*	*1*	*10,000*	*10,000*				
						60,000				
		A&E allowance	*%*	*60,000*	*0.15*	*9,000*				
						69,000				
		Contingency allowance	*%*	*69,000*	*0.15*	*10,350*				
		Rounding				*650*				
		Total Science Room Relocation				***80,000***				
4	Reroof student covered area and add roof ventilation	Included separately in asset renewal budgets				0	0	0	0	**0**
5	Upgrade wi fi	Excluded - assume part of separate Technology budget				0	0	0	0	**0**
6	Extend CRE - extension building to main road	Building area excluding covered ways	ft2	1250		500,000	20,000	520,000	20,000	**540,000**
		Building area excluding covered ways	*ft2*	*1,250*	*260*	*324,795*				
		Allowance for earthworks, siteworks & drainage	*LS*	*1*	*50,000*	*50,000*				
						374,795				
		A&E allowance	*%*	*374,795*	*0.15*	*56,219*				
						431,014				
		Contingency allowance	*%*	*431,014*	*0.15*	*64,652*				
		Rounding				*4,333*				
		Total Extension to CRE Building				***500,000***				
		Fit-out - assume $10/ft2	*ft2*	*1,250*	*10*	*12,500*				
		A&E allowance	*%*	*12,500*	*0.15*	*1,875*				
						14,375				
		Contingency allowance	*%*	*14,375*	*0.15*	*2,156*				
		Rounding				*3,469*				
		Total Extension to CRE Fit-out				***20,000***				
7	Landscaping (continuous line of hedges) along the road frontage and upgrade signage	Assume $20K including fees & contingency				20,000	0	20,000	1,000	**21,000**
8	Meeting room for student body meetings - review classroom use and retrofit within existing building footprint	Assume $5K refurbishment including fees & contingency				5,000	0	5,000	-	**5,000**
9	Staff lounge - meeting place for all faculty - review classroom/ faculty space and consider conversion of one faculty office	Assume $5K refurbishment including fees & contingency				5,000	0	5,000	-	**5,000**
10	Conference space set up with conferencing remote learning - review classroom utilization and convert classroom space to new function	Excluded - assume part of separate Technology budget				0	0	0	0	**0**
	5 year vision on the Nantaku site - to 2018									
11	Road connection to site	Approx. half a mile long. Excludes property purchase & legal costs	No	1		2,300,000	0	2,300,000	100,000	**2,400,000**
		Allowance for roading - assume 20ft wide	*ft*	*3,000*	*320*	*960,366*	-			

	Allowance for drainage	*LS*	*1*	*250,000*	*250,000*				
	Allowance for earthworks & retaining	*LS*	*1*	*500,000*	*500,000*				
	Sub-total				*1,710,366*				
	A&E allowance	*%*	*1,710,366*	*0.15*	*256,555*				
					1,966,921				
	Contingency allowance	*%*	*1,966,921*	*0.15*	*295,038*				
	Rounding				*38,041*				
	Total Road Connection to Site				***2,300,000***				
12 Site infrastructure services - water supply, site drainage, sewage disposal, electricty					3,250,000	0	3,250,000	130,000	**3,380,000**
	Allowance for water bore, pumps, treatment & storage	*LS*	*1*	*500,000*	*500,000*	-			
	Allowance for site drainage system & detention pond	*LS*	*1*	*200,000*	*200,000*				
	Allowance for packaged wastewater system (containerised) & connection to either local network or septic leaching field	*LS*	*1*	*500,000*	*500,000*				
	Allowance for site fire ring main & storage tanks	*LS*	*1*	*200,000*	*200,000*				
	Allowance for connection to main power supply	*LS*	*1*	*200,000*	*200,000*				
	Allowance for on-site emergency generator & shed	*No*	*1*	*350,000*	*350,000*				
	Allowance for earthworks & retaining across site	*LS*	*1*	*500,000*	*500,000*				
	Sub-total				*2,450,000*				
	A&E allowance	*%*	*2,450,000*	*0.15*	*367,500*				
					2,817,500				
	Contingency allowance	*%*	*2,817,500*	*0.15*	*422,625*				
	Rounding				*9,875*				
	Total Extension to CRE Building				***3,250,000***				
13 On site roading infrastructure and form basketball hardcourt area	Basketball court is unovered. Extent of earthworks & retaining walls is assumed				1,250,000	0	1,250,000	50,000	**1,300,000**
	Carparks	*No*	*50*	*3,500*	*175,000*				
	Access / Drive way	*ft2*	*19,000*	*10*	*190,001*				
	Entry & Exit crossings	*No*	*1*	*5,000*	*5,000*				
	Footpaths assume 10ft wide	*ft*	*820*	*45*	*36,900*				
	Allowance for drainage to car park	*LS*	*1*	*30,000*	*30,000*				
	Allowance for additional earthworks	*LS*	*1*	*50,000*	*50,000*				
	Allowance for retaining walls	*ft*	*700*	*305*	*213,415*				
	Fence/handrail to top of retaining walls	*ft*	*700*	*168*	*117,378*				
	Concrete basketball court (uncovered)	*ft2*	*4,700*	*11*	*52,397*				
	Allowance for basketball hoops & courtmarking	*LS*	*1*	*15,000*	*15,000*				
	Allowance for carpark & access way lighting	*No*	*12*	*5,000*	*60,000*				
					945,090				
	A & E allowance	*%*	*945,090*	*0.15*	*141,764*				
	Sub-total				*1,086,854*				
	Contingency allowance	*%*	*1,086,854*	*0.15*	*163,028*				
	Rounding				*118*				
	Total Extension to North				***1,250,000***				
14 Buildings 1,2 and 3 - two level administration and classroom buildings and associated landscaping	Building area excluding covered ways	ft2	28000		10,025,000	550,000	10,575,000	425,000	**11,000,000**

	Building 1 - Administration	*ft2*	*8,000*	*260*	*2,078,689*				
	Building 2 - Student services & teaching spaces	*ft2*	*10,000*	*240*	*2,402,557*				
	Building 3 - teaching spaces, LRC & Computer Lab	*ft2*	*10,000*	*260*	*2,598,361*				
	Allowance for earthworks, siteworks & drainage	*LS*	*1*	*250,000*	*250,000*				
	Allowance for landscaping & paths	*LS*	*1*	*250,000*	*250,000*				
	Sub-total				*7,579,607*				
	A&E allowance	*%*	*7,579,607*	*0.15*	*1,136,941*				
					8,716,548				
	Contingency allowance	*%*	*8,716,548*	*0.15*	*1,307,482*				
	Rounding				*970*				
	Total Buildings 1,2 & 3				***10,025,000***				
	Fit-out - assume $10/ft2	*ft2*	*28,000*	*10*	*280,000*				
	Allow extra for admin fit-out	*ft2*	*8,000*	*10*	*80,000*				
	Allow extra for computer lab fit-oout	*ft2*	*10,000*	*5*	*50,000*				
	A&E allowance	*%*	*410,000*	*0.15*	*61,500*				
					471,500				
	Contingency allowance	*%*	*471,500*	*0.15*	*70,725*				
	Rounding				*7,775*				
	Total Admin & Faculty Fit-out				***550,000***				
15	Building 5 -CRE - research building	Building area excludes covered ways	ft2	2200		1,100,000	60,000	1,160,000	45,000	**1,205,000**
	Building area excludes covered ways	*ft2*	*2,200*	*260*	*571,639*				
	Allowance for landscaping and paths	*LS*	*1*	*100,000*	*100,000*				
	Allowance for earthworks, siteworks & drainage	*LS*	*1*	*150,000*	*150,000*				
	Sub-total				*821,639*				
	A&E allowance	*%*	*821,639*	*0.15*	*123,246*				
					944,885				
	Contingency allowance	*%*	*944,885*	*0.15*	*141,733*				
	Rounding				*13,382*				
	Total New CRE Research Wing Building				***1,100,000***				
	Fit-out - assume $10/ft2	*ft2*	*2,200*	*10*	*22,000*				
	Allow additional fit-out for Research area	*ft2*	*2,200*	*10*	*22,000*				
	A&E allowance	*%*	*44,000*	*0.15*	*6,600*				
					50,600				
	Contingency allowance	*%*	*50,600*	*0.15*	*7,590*				
	Rounding				*1,810*				
	Total New CRE Research Wing Fit-out				***60,000***				
16	Building 5 - Maintenance building (at top of the site)	Building area excludes covered ways	ft2	1000		190,000	15,000	205,000	10,000	**215,000**
	Building area excludes covered ways	*ft2*	*1,000*	*110*	*110,483*				
	Allowance for earthworks, siteworks & drainage	*LS*	*1*	*30,000*	*30,000*				
	Sub-total				*140,483*				
	A&E allowance	*%*	*140,483*	*0.15*	*21,072*				
					161,555				
	Contingency allowance	*%*	*161,555*	*0.15*	*24,233*				
	Rounding				*4,212*				
	Total Maintenance Building				***190,000***				
	Fit-out - assume $10/ft2	*ft2*	*1,000*	*10*	*10,000*				
	A&E allowance	*%*	*10,000*	*0.15*	*1,500*				

						11,500				
		Contingency allowance	*%*	*11,500*	*0.15*	*1,725*				
		Rounding				*1,775*				
		Total Maintenance Fit-out				***15,000***				
	TOTAL Chuuk 5 year vision to 2018					**19,035,000**	**645,000**	**19,680,000**	**799,000**	**20,479,000**
	Chuuk 10 year vision to 2023									
17	Building 6 - two level classroom building dependent on roll number increase					4,100,000	135,000	4,235,000	195,000	**4,430,000**
		Building 6 - (Type dependent on roll numbers)	*ft2*	*10,000*	*260*	*2,598,361*				
		Allowance for earthworks, siteworks & drainage	*LS*	*1*	*250,000*	*250,000*				
		Allowance for landscaping & paths	*LS*	*1*	*250,000*	*250,000*				
		Sub-total				*3,098,361*				
		A&E allowance	*%*	*3,098,361*	*0.15*	*464,754*				
						3,563,115				
		Contingency allowance	*%*	*3,563,115*	*0.15*	*534,467*				
		Rounding				*2,417*				
		Total Buildings 1,2 & 3				***4,100,000***				
		Fit-out - assume $10/ft2	*ft2*	*10,000*	*10*	*100,000*				
		A&E allowance	*%*	*100,000*	*0.15*	*15,000*				
						115,000				
		Contingency allowance	*%*	*115,000*	*0.15*	*17,250*				
		Rounding				*2,750*				
		Total Admin & Faculty Fit-out				***135,000***				
18	Associated landscaping	Assume $100Kbase plus fees & contingency for campus wide landscaping				135,000	0	135,000	10,000	**145,000**
		Allowance for landscaping & paths	*LS*	*1*	*100,000*	*100,000*				
		Sub-total				*100,000*				
		A&E allowance	*%*	*100,000*	*0.15*	*15,000*				
						115,000				
		Contingency allowance	*%*	*115,000*	*0.15*	*17,250*				
		Rounding				*2,750*				
		Total Associated Landscaping				***135,000***				
	TOTAL Chuuk 10 year vision (2019 to 2023)					**4,235,000**	**135,000**	**4,370,000**	**205,000**	**4,575,000**
	Chuuk Long term vision - beyond 2023									
	No Projects identified									
	TOTAL Chuuk Long Term Vision (Beyond 2023)					**0**	**0**	**0**	**0**	**0**
	Chuuk Further projects (not in order of priority)									
19	Solar power generation	Assume $500K including associated buildings, fees and contingency	LS	1	500000	500,000	0	500,000	25,000	**525,000**
	TOTAL Chuuk Future Projects					**500,000**	**0**	**500,000**	**25,000**	**525,000**

GRAND TOTAL CHUUK CAMPUS

TOTAL Chuuk 5 Year Period to 2018	19,035,000	645,000	19,680,000	799,000	20,479,000
TOTAL Chuuk 10 Year Vision (2019 to 2023)	4,235,000	135,000	4,370,000	205,000	4,575,000
TOTAL Chuuk Long Term Vision (Beyond 2023)	0	0	0	0	0
TOTAL Future Projects (Chuuk)	500,000	-	500,000	25,000	525,000
GRAND TOTAL CHUUK CAMPUS	**23,770,000**	**780,000**	**24,550,000**	**1,029,000**	**25,579,000**

	COM-FSM Space Utilization and Facilities Study Rough Order of Cost Estimate Summary - National Campus (November 2013)	Limitations, Assumptions, Inclusions & Exclusions	Unit	Quantity	Rate $USD	Buildings, Services & Siteworks $USD (2013 cost)	Allowance for Fit-out $USD (2013 cost)	TOTAL $USD (2013 cost)	Allowance for Escalation (3.4% pa)	TOTAL Escalated Cost $USD
	All Projects									
a	These are 'rough order of cost' estimates based on highly conceptual information and have an accuracy range that is no better than +/-20%. All estimates need to be confirmed prior to funding application & construction									
b	Fit-out costs (desks, chairs & loose furniture only) assumed at $10/ft2									
c	No allowance for data projectors, screens, computers, printers, photo-copiers etc									
d	Architectural & Engineering fees and contingency allowances have been included									
e	Escalation has been assumed at the rate of 3.4% per annum. November 2013 has been used as the base date for escalation.									
f	Property purchase or leasing costs are excluded									
g	Taxes, duties and fees are excluded on all projects									
	National 5 year period to 2018									
1	Secure IT facilities with server room and backup area	Assume 250ft2 space inside existing building		250		40,000	0	40,000	2,000	**42,000**
		Retro-fit existing floor space	*ft*	*250*	*112*	*27,881*				
		Allowance for fan coil unit	*No*	*1*	*3,000*	*3,000*				
						30,881				
		A & E allowance	*%*	*30,881*	*0.15*	*4,632*				
		Sub-total				*35,513*				
		Contingency allowance	*%*	*35,513*	*0.15*	*5,327*				
		Rounding				*- 840*				
		Total IT Server Room				***40,000***				
2	Public community health interface building	Building area excludes covered ways	ft2	3,800		1,460,000	50000	1,510,000	60,000	**1,570,000**
		Building area excludes covered ways	*ft2*	*3,800*	*260*	*987,377*				
		10ft wide path (uncovered)	*ft*	*350*	*69*	*24,009*				
		Allowance for landscaping	*LS*	*1*		*30,000*				
		Allowance for earthworks, siteworks & drainage	*LS*	*1*	*60,000*	*60,000*				
		Sub-total				*1,101,386*				
		A&E allowance	*%*	*1,101,386*	*0.15*	*165,208*				
						1,266,594				
		Contingency allowance	*%*	*1,266,594*	*0.15*	*189,989*				
		Rounding				*3,416*				
		Total Public Health Building				***1,460,000***				
		Fit-out - assume $10/ft2	*ft2*	*3,800*	*10*	*38,000*				
		A&E allowance	*%*	*38,000*	*0.15*	*5,700*				
						43,700				
		Contingency allowance	*%*	*43,700*	*0.15*	*6,555*				
		Rounding				*- 255*				
		Total Public Health Fit-out				***50,000***				
3	Toilets at MITC building - replace darkroom area with wc facilities accessible for weekend use	Allow $25K base cost				35,000	0	35,000	1,000	**36,000**
		Allow $25K base cost	*LS*	*1*	*25,000*	*25,000*				
		Sub-total				*25,000*				
		A&E allowance	*%*	*25,000*	*0.15*	*3,750*				
						28,750				
		Contingency allowance	*%*	*28,750*	*0.15*	*4,313*				
		Rounding				*1,937*				

	Total MITC Building Toilets				***35,000***				
4 Rationalize the science storage space to include project space through replanning layout of the existing space	Assume $30K base cost for 3 bays of Lundia shelving				50,000	0	50,000	2,000	**52,000**
	Allow $30K base cost	*LS*	*1*	*30,000*	*30,000*				
	Allow sundry re-furbishment costs	*LS*	*1*	*5,000*	*5,000*				
	Sub-total			*.*	*35,000*				
	A&E allowance	*%*	*35,000*	*0.15*	*5,250*				
					40,250				
	Contingency allowance	*%*	*40,250*	*0.15*	*6,038*				
	Rounding				*3,712*				
	Total Science Storage				***50,000***				
5 Rationalize the administration area through the review of area used for storage of files and alternative means of storage - moveable shelving, digitized files	Assume $30K base cost for 3 bays of Lundia shelving				50,000	0	50,000	2,000	**52,000**
	Allow $30K base cost	*LS*	*1*	*30,000*	*30,000*				
	Allow sundry re-furbishment costs	*LS*	*1*	*5,000*	*5,000*				
	Sub-total			*.*	*35,000*				
	A&E allowance	*%*	*35,000*	*0.15*	*5,250*				
					40,250				
	Contingency allowance	*%*	*40,250*	*0.15*	*6,038*				
	Rounding				*3,712*				
	Total Administration Storage				***50,000***				
6 Upgrade the gymnasium building to provide facilities required for next 10 years - i.e. space cooling, water storage, solar panels	Scope requirements unclear - assume $300K base plus fees & contingency				400,000	0	400,000	20,000	**420,000**
	Allow $300K base cost	*LS*	*1*	*300,000*	*300,000*				
	Sub-total			*.*	*300,000*				
	A&E allowance	*%*	*300,000*	*0.15*	*45,000*				
					345,000				
	Contingency allowance	*%*	*345,000*	*0.15*	*51,750*				
	Rounding				*3,250*				
	Total Gymnasium Upgrade				***400,000***				
7 Increase disabled access across the site - access to both administration levels	Assume lift replacement of $100K				170,000	0	170,000	10,000	**180,000**
	Replace existing service /dumbwaiter lift	*No*	*1*	*100,000*	*100,000*				
	10ft wide concrete path	*ft*	*400*	*69*	*27,439*				
	Sub-total			*.*	*127,439*				
	A&E allowance	*%*	*127,439*	*0.15*	*19,116*				
					146,555				
	Contingency allowance	*%*	*146,555*	*0.15*	*21,983*				
	Rounding				*1,462*				
	Total Disabled Access				***170,000***				
8 Consolidate bookstore and bookstore warehouse area					20,000	0	20,000	1,000	**21,000**
	Allow to remove esiting shelving - assume $10K	*LS*	*1*	*10,000*	*10,000*				

	Remove existing wall	*No*	*1*	*5,000*	*5,000*				
	Sub-total			.	*15,000*				
	A&E allowance	*%*	*15,000*	*0.15*	*2,250*				
					17,250				
	Contingency allowance	*%*	*17,250*	*0.15*	*2,588*				
	Rounding				*162*				
	Total Bookstore Consolidation				***20,000***				
9 Relocate security within the campus (previous bookstore area)					5,000	0	5,000	-	**5,000**
	Allow $3K base cost to refurbish bookstore (where shelving removed)	*LS*	*1*	*3,000*	*3,000*				
	Sub-total			.	*3,000*				
	A&E allowance	*%*	*3,000*	*0.15*	*450*				
					3,450				
	Contingency allowance	*%*	*3,450*	*0.15*	*518*				
	Rounding				*1,032*				
	Total Security Relocation				***5,000***				
10 Provide a covered pick up/ drop off space for taxis/ buses at main entry	Assume Bus bay & small bus shelter				20,000	0	20,000	1,000	**21,000**
	Allow to form bus bay - concrete slab & kerbing	*No*	*1*	*7,500*	*7,500*				
	Bus shelter	*No*	*1*	*7,500*	*7,500*				
	Sub-total			.	*15,000*				
	A&E allowance	*%*	*15,000*	*0.15*	*2,250*				
					17,250				
	Contingency allowance	*%*	*17,250*	*0.15*	*2,588*				
	Rounding				*162*				
	Total Pick-up/Drop-off Space				***20,000***				
11 New two level student services building	Building area excludes covered ways	ft2	8,100		2,800,000	110,000	2,909,999	115,001	**3,025,000**
	Building area excludes covered ways	*ft2*	*8,100*	*240*	*1,946,071*				
	Allowance for earthworks, siteworks & drainage	*LS*	*1*	*150,000*	*150,000*				
	Sub-total				*2,096,071*				
	A&E allowance	*%*	*2,096,071*	*0.15*	*314,411*				
					2,410,482				
	Contingency allowance	*%*	*2,410,482*	*0.15*	*361,572*				
	Rounding				*27,946*				
	Total Student Services Building				***2,800,000***				
	Fit-out - assume $10/ft2	*ft2*	*8,100*	*10*	*81,000*				
	A&E allowance	*%*	*81,000*	*0.15*	*12,150*				
					93,150				
	Contingency allowance	*%*	*93,150*	*0.15*	*13,973*				
	Rounding				*2,877*				
	Total Student Services Fit-out				***110,000***				
12 Landscape work, paths in connection with the new student services building	Allow $200K base cost for covered ways & landscaping				265,000	0	265,000	10,000	**275,000**
	Allowance for covered ways & landscaping	*LS*	*1*	*200,000*	*200,000*				

		Sub-total				*200,000*				
		A&E allowance	*%*	*200,000*	*0.15*	*30,000*				
						230,000				
		Contingency allowance	*%*	*230,000*	*0.15*	*34,500*				
		Rounding				*500*				
		Total Student Services Paths & Landscaping				***265,000***				
13	Remove offices on the side of the dining hall and increase dining hall space	Assumes existing doors & windows are retained				20,000	0	20,000	1,000	**21,000**
		Allowance for removal of internal wall & minor refurbishment	*LS*	*1*	*15,000*	*15,000*				
		Sub-total				*15,000*				
		A&E allowance	*%*	*15,000*	*0.15*	*2,250*				
						17,250				
		Contingency allowance	*%*	*17,250*	*0.15*	*2,588*				
		Rounding				*162*				
		Total Remove Offices to Dining Hall				***20,000***				
14	Combined covered area for residential students	Assume open sided covered area of 550ft2				115,000	0	115,000	5,000	**120,000**
		Thatched roof open sided shelter	*ft2*	*550*	*120*	*66,000*				
		Allowance for earthworks & retaining	*LS*	*1*	*10,000*	*10,000*				
		Allowance for landscaping & nominal seating	*LS*	*1*	*10,000*	*10,000*				
		Sub-total				*86,000*				
		A&E allowance	*%*	*86,000*	*0.15*	*12,900*				
						98,900				
		Contingency allowance	*%*	*98,900*	*0.15*	*14,835*				
		Rounding				*1,265*				
		Total Covered Area for Students				***115,000***				
15	Full outdoor Basketball court	Assumes re-surfacing & re-marking of 1No court x 4,700ft2. Excludes roof covering and lighting	No			80,000	0	80,000	3,000	**83,000**
		Re-surface existing concrete (overlay)	*ft2*	*4,700*	*8*	*37,600*				
		Allowance for landscaping & nominal seating	*LS*	*1*	*10,000*	*10,000*				
		Allowance for backboards etc	*LS*	*1*	*12,400*	*12,400*				
		Sub-total				*60,000*				
		A&E allowance	*%*	*60,000*	*0.15*	*9,000*				
						69,000				
		Contingency allowance	*%*	*69,000*	*0.15*	*10,350*				
		Rounding				*650*				
		Total Basketball Court				***80,000***				
15A	New sewage leaching field	Assume $100K for modification & extension of existing system				135,000	0	135,000	5,000	**140,000**
		Allowance for leaching field	*LS*	*1*	*100,000*	*100,000*				
						100,000				
		A & E allowance	*%*	*100,000*	*0.15*	*15,000*				
		Sub-total				*115,000*				
		Contingency allowance	*%*	*115,000*	*0.15*	*17,250*				
		Rounding				*2,750*				
		Total Sewage System				***135,000***				

TOTAL National 5 Year Period to 2018					**5,665,000**	**160,000**	**5,825,000**	**238,000**	**6,063,000**
National 10 year vision (2019 to 2023)									
16 Quiet contemplation place for residential students - pastoral care	*Assume 220ft2 structure with 3No. Side walls*				50,000	0	50,000	2,000	**52,000**
	Thatched roof open sided shelter	*ft2*	*220*	*120*	*26,400*				
	Allowance for earthworks & retaining	*LS*	*1*	*5,000*	*5,000*				
	Allowance for landscaping & nominal seating	*LS*	*1*	*5,000*	*5,000*				
	Sub-total				*36,400*				
	A&E allowance	*%*	*36,400*	*0.15*	*5,460*				
					41,860				
	Contingency allowance	*%*	*41,860*	*0.15*	*6,279*				
	Rounding				*1,861*				
	Total Covered Area for Students				***50,000***				
17 Marine science/ applied research building adjacent to the agriculture building	Building area excludes covered ways	ft2	5,700		2,025,000	75,000	2,100,000	100,000	**2,200,000**
	Building area excludes covered ways	*ft2*	*5,700*	*260*	*1,481,066*				
	Allowance for earthworks, siteworks & drainage	*LS*	*1*	*50,000*	*50,000*				
	Sub-total				*1,531,066*				
	A&E allowance	*%*	*1,531,066*	*0.15*	*229,660*				
					1,760,726				
	Contingency allowance	*%*	*1,760,726*	*0.15*	*264,109*				
	Rounding				*165*				
	Total Marine Science Building				***2,025,000***				
	Fit-out - assume $10/ft2	*ft2*	*5,700*	*10*	*57,000*				
	A&E allowance	*%*	*57,000*	*0.15*	*8,550*				
					65,550				
	Contingency allowance	*%*	*65,550*	*0.15*	*9,833*				
	Rounding				*- 383*				
	Total Marine Science Fit-out				***75,000***				
TOTAL National 10 Year Vision (2019 to 2023)					**2,075,000**	**75,000**	**2,150,000**	**102,000**	**2,252,000**
National Long term vision - beyond 2023									
18 Track and field / baseball facility including associated vehicle access and parking as well as pedestrian access	*All costs assumed. Excludes seating and lighting for night games*	ft2	1		1,000,000	0	1,000,000	50,000	**1,050,000**
	Allowance for running track & football field	*LS*	*1*	*300,000*	*300,000*				
	Allowance for Baseball diamond & fencing	*LS*	*1*	*150,000*	*150,000*				
	Allowance for toilet/changing/storage facilities	*LS*	*1*	*100,000*	*100,000*				
	Allowance for earthworks, siteworks, drainage, vehicle access & paths	*LS*	*1*	*200,000*	*200,000*				
	Sub-total				*750,000*				
	A&E allowance	*%*	*750,000*	*0.15*	*112,500*				
					862,500				
	Contingency allowance	*%*	*862,500*	*0.15*	*129,375*				
	Rounding				*8,125*				
	Total Track & Field and Baseball				***1,000,000***				

TOTAL National Long Term Vision (Beyond 2023)					**1,000,000**	**0**	**1,000,000**	**50,000**	**1,050,000**
Further projects (not in order of priority)									
Solar power generation	Assume $500K including associated buildings, fees and contingency	LS	1	500,000	500,000	0	500,000	25,000	525,000
TOTAL Future Projects (National)					**500,000**	**0**	**500,000**	**25,000**	**525,000**
GRAND TOTAL NATIONAL CAMPUS									
TOTAL National 5 Year Period to 2018					5,665,000	160,000	5,825,000	238,000	6,063,000
TOTAL National 10 Year Vision (2019 to 2023)					2,075,000	75,000	2,150,000	102,000	2,252,000
TOTAL National Long Term Vision (Beyond 2023)					1,000,000	0	1,000,000	50,000	1,050,000
TOTAL Future Projects (National)					500,000	0	500,000	25,000	525,000
GRAND TOTAL NATIONAL CAMPUS					**9,240,000**	**235,000**	**9,475,000**	**415,000**	**9,890,000**

	COM-FSM Space Utilization and Facilities Study Rough Order of Cost Estimate Summary - Pohnpei Campus (November 2013)	Limitations, Assumptions, Inclusions & Exclusions	Unit	Quantity	Rate $USD	Buildings, Services & Siteworks $USD (2013 cost)	Allowance for Fit-out $USD (2013 cost)	TOTAL $USD (2013 cost)	Allowance for Escalation (3.4% pa)	TOTAL Escalated Cost $USD
	All Projects									
a	These are 'rough order of cost' estimates based on highly conceptual information and have an accuracy range that is no better than +/-20%. All estimates need to be confirmed prior to funding application & construction									
b	Fit-out costs (desks, chairs & loose furniture only) assumed at $10/ft2									
c	No allowance for data projectors, screens, computers, printers, photo-copiers etc									
d	Architectural & Engineering fees and contingency allowances have been included									
e	Escalation has been assumed at the rate of 3.4% per annum. November 2013 has been used as the base date for escalation.									
f	Property purchase or leasing costs are excluded									
g	Taxes, duties and fees are excluded on all projects									
	Pohnpei 5 year period to 2018									
1	Create a vehicle route through the campus for service access and service with fire hydrants, consider demolition of end of classroom building to route access around existing mahogany trees. Seating areas for small group or individual study.	Assume 10ft wide concrete service access road x 3,300ft long. Excludes Fire mains & Hydrants (priced separately in future projects)				280,000	0	280,000	11,000	**291,000**
		Concrete path	*ft*	*1,250*	*67*	*83,841*				
		Fire main	*ft*	*1,500*	*40*	*60,000*				
		Fire hydrant	*No*	*5*	*2,000*	*10,000*				
		Allowance for additional earthworks & drainage	*LS*	*1*	*30,000*	*30,000*				
		Allowance for landscaping and 2No. Thatched roof study hut, solar panel & picnic table	*No*	*4*	*7,000*	*28,000*				
		Sub-Total				*211,841*				
		A & E allowance	*%*	*211,841*	*0.15*	*31,776*				
		Sub-total				*243,618*				
		Contingency allowance	*%*	*243,618*	*0.15*	*36,543*				
		Rounding				*- 160*				
		Total Vehicle Route through Campus				***280,000***				
2	Relocate building K functions (TRIO program) to top floor of PSBDC	Assume $5K for soft fit-out including fees & contingency				5,000	0	5,000	0	**5,000**
3	Demolish Building K	Assume $100K	No	1	100000	100,000	0	100,000	5,000	**105,000**
4	Demolish the electronics building	Assume $20K	No	1	20000	20,000	0	20,000	1,000	**21,000**
5	New technical education classroom building along the boundary on the upper campus	Building area excludes covered ways	ft2	3200		1,310,000	50,000	1,360,000	60,000	**1,420,000**
		Building area excludes covered ways	*ft2*	*3,500*	*240*	*840,895*				
		Allowance for earthworks, siteworks & drainage	*LS*	*1*	*150,000*	*150,000*				
		Sub-total				*990,895*				

		A&E allowance	*%*	*990,895*	*0.15*	*148,634*				
						1,139,529				
		Contingency allowance	*%*	*1,139,529*	*0.15*	*170,929*				
		Rounding				*458*				
		Total Technical Education Classroom Building				***1,310,000***				
		Fit-out - assume $10/ft2	*ft2*	*3,500*	*10*	*35,000*				
		A&E allowance	*%*	*35,000*	*0.15*	*5,250*				
						40,250				
		Contingency allowance	*%*	*40,250*	*0.15*	*6,038*				
		Rounding				*3,712*				
		Total Technical Education Classroom Fit-out				***50,000***				
6	New multipurpose technical education building along the boundary on the upper campus (Building 2)	Building area excludes covered ways	ft2	4000		1,470,000	55,000	1,525,000	75,000	**1,600,000**
		Building area excludes covered ways	*ft2*	*4,000*	*240*	*961,023*				
		Allowance for earthworks, siteworks & drainage	*LS*	*1*	*150,000*	*150,000*				
		Sub-total				*1,111,023*				
		A&E allowance	*%*	*1,111,023*	*0.15*	*166,653*				
						1,277,676				
		Contingency allowance	*%*	*1,277,676*	*0.15*	*191,651*				
		Rounding				*673*				
		Total Technical Education Classroom Building				***1,470,000***				
		Fit-out - assume $10/ft2	*ft2*	*4,000*	*10*	*40,000*				
		A&E allowance	*%*	*40,000*	*0.15*	*6,000*				
						46,000				
		Contingency allowance	*%*	*46,000*	*0.15*	*6,900*				
		Rounding				*2,100*				
		Total Technical Education Classroom Fit-out				***55,000***				
7	Wifi connectivity	Excluded - assume part of separate Technilogy budget				0	0	0	0	**0**
8	Site works associated with the new technical education buildings including rationalizing vehicle access, parking lot, signage, pedestrian connections, perimeter and structured planting					320,000	0	320,000	15,000	**335,000**
		Access way approx. 450 x 12ft wide	*ft2*	*5,400*	*11*	*60,201*				
		Entry & Exit crossings	*No*	*2*	*5,000*	*10,000*				
		Footpaths assume 10ft wide	*ft*	*850*	*67*	*56,999*				
		Bus bay & shelters & staff parks	*LS*	*1*	*50,000*	*50,000*				
		Allowance for drainage	*LS*	*1*	*20,000*	*20,000*				
		Allowance for additional earthworks	*LS*	*1*	*10,000*	*10,000*				
		Allowance for landscaping	*LS*	*1*	*15,000*	*15,000*				
		Allowance for carpark lighting	*No*	*2*	*5,000*	*10,000*				
						232,199				
		A & E allowance	*%*	*232,199*	*0.15*	*34,830*				
		Sub-total				*267,029*				
		Contingency allowance	*%*	*267,029*	*0.15*	*40,054*				
		Rounding				*12,916*				
		Total Vehicle Access				***320,000***				

9	Create a public face for the upper campus with new signage and entry points	Assume $25K including fees and contingency	LS	1	25000	25,000	0	25,000	1,000	**26,000**
10	New facility for LRC	Building area excludes covered ways	ft2	2900		1,120,000	40,000	1,160,000	45,000	**1,205,000**
		Building area excludes covered ways	*ft2*	*2,900*	*240*	*696,741*				
		Allowance for earthworks, siteworks & drainage	*LS*	*1*	*150,000*	*150,000*				
		Sub-total				*846,741*				
		A&E allowance	*%*	*846,741*	*0.15*	*127,011*				
						973,753				
		Contingency allowance	*%*	*973,753*	*0.15*	*146,063*				
		Rounding				*184*				
		Total New LRC Building				***1,120,000***				
		Fit-out - assume $10/ft2	*ft2*	*2,900*	*10*	*29,000*				
		A&E allowance	*%*	*29,000*	*0.15*	*4,350*				
						33,350				
		Contingency allowance	*%*	*33,350*	*0.15*	*5,003*				
		Rounding				*1,647*				
		Total LRC Fit-out				***40,000***				
11	Demolish bookstore	Assume $30K	No	1	30000	30,000	0	30,000	2,000	**32,000**
12	Walkway connecting high level buildings to lower level access road, access route from elementary school to top of the site as an alternative access	Assume 10ft wide timber		450		275,000	0	275,000	10,000	**285,000**
		10ft wide timber boardwalk	*ft*	*450*	*457*	*205,793*				
		A & E allowance	*%*	*205,793*	*0.15*	*30,869*				
		Sub-total				*236,662*				
		Contingency allowance	*%*	*236,662*	*0.15*	*35,499*				
		Rounding				*2,839*				
		Total Formed Paths				***275,000***				
	TOTAL Pohnpei 5 year vision to 2018					**4,955,000**	**145,000**	**5,100,000**	**225,000**	**5,325,000**
	10 year vision to 2023 (2019 to 2023)									
13	Demolish carpentry and mechanical building	Assume $30K	No	1	30000	30,000	0	30,000	1,000	**31,000**
14	New multipurpose technical education building at the upper campus entry with area for maintenance and storage	Building area excludes covered ways	ft2	1800		740,000	25,000	765,000	35,000	**800,000**
		Building area excludes covered ways	*ft2*	*1,800*	*240*	*432,460*				
		Allowance for landscaping	*LS*	*1*	*50,000*	*50,000*				
		Allowance for earthworks, siteworks & drainage	*LS*	*1*	*75,000*	*75,000*				
		Sub-total				*557,460*				
		A&E allowance	*%*	*557,460*	*0.15*	*83,619*				
						641,079				
		Contingency allowance	*%*	*641,079*	*0.15*	*96,162*				
		Rounding				*2,759*				
		Total Multi-Purpose Building				***740,000***				

	Fit-out - assume $10/ft2	*ft2*	*1,800*	*10*	*18,000*				
	A&E allowance	*%*	*18,000*	*0.15*	*2,700*				
					20,700				
	Contingency allowance	*%*	*20,700*	*0.15*	*3,105*				
	Rounding				*1,195*				
	Total Multi-Purpose Fit-out				***25,000***				
15 Relocate Land Grant to top floor of PSBDC and remove COM Land Grant and re-landscape front of PSBDC					175,000	0	175,000	10,000	**185,000**
	Allowance to demo Land Grant Building - assume $30K	*LS*	*1*	*30,000*	*30,000*				
	Allowance for landscaping PSBDC	*LS*	*1*	*100,000*	*100,000*				
					130,000				
	A & E allowance	*%*	*130,000*	*0.15*	*19,500*				
	Sub-total				*149,500*				
	Contingency allowance	*%*	*149,500*	*0.15*	*22,425*				
	Rounding				*3,075*				
	Total Vehicle Access				***175,000***				
TOTAL Pohnpei 10 Year Vision (2019 to 2023)					**945,000**	**25,000**	**970,000**	**46,000**	**1,016,000**
Long term vision - beyond 2023									
16 Turn around area in front of administration with a one way entry and exit	Assume $50K for entry turning bay				50,000	0	50,000	3,000	**53,000**
17 Two storey building at the front gate of the lower campus for administration and faculty (Building 5)					4,700,000	170,000	4,870,000	230,000	**5,100,000**
	Building 5 - Administration, Faculty & Classroom	*ft2*	*12,500*	*260*	*3,247,952*				
	Allowance to demolish Hospitality, Tourism & Building B	*LS*	*1*	*50,000*	*50,000*				
	Allowance for landscaping	*LS*	*1*	*100,000*	*100,000*				
	Allowance for earthworks, siteworks & drainage	*LS*	*1*	*150,000*	*150,000*				
	Sub-total				*3,547,952*				
	A&E allowance	*%*	*3,547,952*	*0.15*	*532,193*				
					4,080,144				
	Contingency allowance	*%*	*4,080,144*	*0.15*	*612,022*				
	Rounding				*7,834*				
	Total Buildings 1,2 & 3				***4,700,000***				
	Fit-out - assume $10/ft2	*ft2*	*12,500*	*10*	*125,000*				
	A&E allowance	*%*	*125,000*	*0.15*	*18,750*				
					143,750				
	Contingency allowance	*%*	*143,750*	*0.15*	*21,563*				
	Rounding				*4,687*				
	Total Admin & Faculty Fit-out				***170,000***				
18 Demolish administration building	Assume $30K	No	1	30000	30,000	0	30,000	2,000	**32,000**

19	Increased carpark area in the lower campus and landscaped small study area, outdoor volleyball area, eating space				630,000	0	630,000	30,000	**660,000**
	Drive way & parking area	*ft2*	*26,000*	*11*	*289,856*				
	Entry & Exit crossings	*No*	*2*	*5,000*	*10,000*				
	Footpaths assume 10ft wide	*ft*	*300*	*67*	*20,122*				
	Bus bay & shelters & staff parks	*LS*	*1*	*50,000*	*50,000*				
	Allowance for drainage	*LS*	*1*	*30,000*	*30,000*				
	Allowance for additional earthworks	*LS*	*1*	*20,000*	*20,000*				
	Allowance for landscaping	*LS*	*1*	*30,000*	*30,000*				
	Allowance for carpark lighting	*No*	*5*	*5,000*	*25,000*				
					474,978				
	A & E allowance	*%*	*474,978*	*0.15*	*71,247*				
	Sub-total				*546,224*				
	Contingency allowance	*%*	*546,224*	*0.15*	*81,934*				
	Rounding				*1,842*				
	Total Vehicle Access				***630,000***				
	TOTAL Pohnpei Long Term Vision (Beyond 2023)				**5,410,000**	**170,000**	**5,580,000**	**265,000**	**5,845,000**
	Further projects (not in order of priority)								
20	Solar power generation	Assume $500K including associated buildings, fees and contingency	LS	1	500000	500,000	0	500,000	25,000	**525,000**
	Works to increase drainage capacity - swales and subsoil drainage	Assume $150K including fees & contingency	LS	1	150000	150,000	0	150,000	5,000	**155,000**
	Fire fighting hydrants through site	Assume 1,500ft additional fire main				170,000	0	170,000	20,000	**190,000**
	Fire main		*ft*	*1,500*	*40*	*60,000*				
	Fire hydrant - assumed		*No*	*8*	*2,000*	*16,000*				
	Allowance for fire water storage, pumps & pipework		*LS*	*1*	*50,000*	*50,000*				
	Sub-Total					*126,000*				
	A & E allowance		*%*	*126,000*	*0.15*	*18,900*				
	Sub-total					*144,900*				
	Contingency allowance		*%*	*144,900*	*0.15*	*21,735*				
	Rounding					*3,365*				
	Total Fire Mains & Hydrants					***170,000***				
	TOTAL Pohnpei Future Projects					**820,000**	**0**	**820,000**	**50,000**	**870,000**
	GRAND TOTAL POHNPEI CAMPUS								
	TOTAL Pohnpei 5 Year Period to 2018					4,955,000	145,000	5,100,000	225,000	5,325,000
	TOTAL Phonpei 10 Year Vision (2019 to 2023)					945,000	25,000	970,000	46,000	1,016,000
	TOTAL Phonpei Long Term Vision (Beyond 2023)					5,410,000	170,000	5,580,000	265,000	5,845,000
	TOTAL Future Projects (Ponphei)					820,000	0	820,000	50,000	870,000
	GRAND TOTAL POHNPEI CAMPUS					**12,130,000**	**340,000**	**12,470,000**	**586,000**	**13,056,000**

	COM-FSM Space Utilization and Facilities Study Rough Order of Cost Estimate Summary - Kosrae Campus (November 2013)	Limitations, Assumptions, Inclusions & Exclusions	Unit	Quantity	Rate $USD	Buildings, Services & Siteworks $USD (2013 cost)	Allowance for Fit-out $USD (2013 cost)	TOTAL $USD (2013 cost)	Allowance for Escalation (3.4% pa)	TOTAL Escalated Cost $USD
	All Projects									
a	These are 'rough order of cost' estimates based on highly conceptual information and have an accuracy range that is no better than +/-20%. All estimates need to be confirmed prior to funding application & construction									
b	Fit-out costs (desks, chairs & loose furniture only) assumed at $10/ft2									
c	No allowance for data projectors, screens, computers, printers, photo-copiers etc									
d	Architectural & Engineering fees and contingency allowances have been included									
e	Escalation has been assumed at the rate of 3.4% per annum. November 2013 has been used as the base date for escalation.									
f	Property purchase or leasing costs are excluded									
g	Taxes, duties and fees are excluded on all projects									
	Kosrae 5 year period to 2018									
1	IT server in a secure environment in the existing administration building	Assume 250ft2 space inside existing building		250		40,000	0	40,000	2,000	**42,000**
		Retro-fit existing floor space	*ft*	*250*	*112*	*27,881*				
		Allowance for fan coil unit	*No*	*1*	*3,000*	*3,000*				
						30,881				
		A & E allowance	*%*	*30,881*	*0.15*	*4,632*				
		Sub-total				*35,513*				
		Contingency allowance	*%*	*35,513*	*0.15*	*5,327*				
		Rounding				*- 840*				
		Total IT Server Room				***40,000***				
2	Upgraded Wifi	Excluded - assume part of separate Technology budget				0	0	0	0	**0**
3	Open side shelters for charging electronics and outdoor study (4 off)	Assume traditional 'thatched' roof structure approx. 15 x 10ft with picnic table	No	4		40,000	0	40,000	2,000	**42,000**
		Shelter structure & roof	*No*	*4*	*5,000*	*20,000*				
		Allowance for solar panel & wiring	*No*	*4*	*1,500*	*6,000*				
		Allowance for picnic table	*No*	*4*	*500*	*2,000*				
						28,000				
		A & E allowance	*%*	*28,000*	*0.15*	*4,200*				
		Sub-total				*32,200*				
		Contingency allowance	*%*	*32,200*	*0.15*	*4,830*				
		Rounding				*2,970*				
		Total IT Server Room				***40,000***				
4	Consolidate student services functions in a multifunctional building - stage 1 two storey building	*Building area excludes covered ways*	ft2	9,100		3,225,000	120,000	3,345,000	130,000	**3,475,000**
		Building area excludes covered ways	*ft2*	*9,100*	*240*	*2,186,327*				
		Allowance for earthworks, siteworks & drainage	*LS*	*1*	*250,000*	*250,000*				
		Sub-total				*2,436,327*				
		A&E allowance	*%*	*2,436,327*	*0.15*	*365,449*				
						2,801,776				
		Contingency allowance	*%*	*2,801,776*	*0.15*	*420,266*				
		Rounding				*2,958*				
		Total Multi-functional Building (Stage 1)				***3,225,000***				

	Fit-out - assume $10/ft2	*ft2*	*9,100*	*10*	*91,000*				
	A&E allowance	*%*	*91,000*	*0.15*	*13,650*				
					104,650				
	Contingency allowance	*%*	*104,650*	*0.15*	*15,698*				
	Rounding				*- 348*				
	Total Multi-functional Fit-out (Stage 1)				***120,000***				
5	Site works associated with multifunctional entry building - carpark, streamside works along the length of the new building , landscaping, signage, pedestrian connections, perimeter and structured planting				560,000	0	560,000	20,000	**580,000**
	Carparks	*No*	*33*	*3,500*	*115,500*				
	Entry & Exit crossings	*No*	*1*	*5,000*	*5,000*				
	Entry turning circle area	*ft2*	*10,000*	*10*	*99,996*				
	Footpaths assume 10ft wide	*ft*	*900*	*45*	*40,509*				
	Allowance for drainage to car park	*LS*	*1*	*15,000*	*15,000*				
	Allowance for additional earthworks	*LS*	*1*	*10,000*	*10,000*				
	Allowance for Streamside works - assume scour protection to building only	*ft*	*200*	*500*	*100,000*				
	Allowance for landscaping	*LS*	*1*	*20,000*	*20,000*				
	Allowance for signage	*LS*	*1*	*5,000*	*5,000*				
	Allowance for carpark lighting	*No*	*2*	*5,000*	*10,000*				
					421,005				
	A & E allowance	*%*	*421,005*	*0.15*	*63,151*				
	Sub-total				*484,156*				
	Contingency allowance	*%*	*484,156*	*0.15*	*72,623*				
	Rounding				*3,221*				
	Total Multi-functional Building Siteworks				***560,000***				
6	Recreational area - outdoor basketball/ volleyball space and associated landscape works	Assumes 1No court x 4,700ft2. Excludes roof covering and lighting	No		150,000	0	150,000	5,000	**155,000**
	Concrete slab	*ft2*	*4,700*	*8*	*37,600*				
	Allowance for earthworks & drainage	*LS*	*1*	*20,000*	*20,000*				
	Perimeter fencing	*ft2*	*700*	*46*	*32,003*				
	Allowance for landscaping & nominal seating	*LS*	*1*	*10,000*	*10,000*				
	Allowance for backboards, markings etc	*LS*	*1*	*12,400*	*12,400*				
	Sub-total				*112,003*				
	A&E allowance	*%*	*112,003*	*0.15*	*16,800*				
					128,803				
	Contingency allowance	*%*	*128,803*	*0.15*	*19,321*				
	Rounding				*1,876*				
	Total Basketball Court				***150,000***				
7	Relocate carpentry and other voced functions to eastern end of Block J away from the main entry and LRC and retrofit space to faculty and/ or administration functions	Assume $20K including electrical to move equipment and construct 1No. New wall			30,000	0	30,000	1,000	**31,000**
	Assume $20K including electrical	*LS*	*1*	*20,000*	*20,000*				
	Sub-total				*20,000*				
	A&E allowance	*%*	*20,000*	*0.15*	*3,000*				
					23,000				

		Contingency allowance	*%*	*23,000*	*0.15*	*3,450*				
		Rounding				*3,550*				
		Total Carpentry Relocation				***30,000***				
8	Demolition of the toilet block at the eastern end of Classroom Building J	Assume $5K	No	1		5,000	0	5,000	-	**5,000**
9	Demolition of Faculty Building C and upgrade surrounding vehicle access and carpark	Assume $40K demolotiion and 25No. new car parks				290,000	0	290,000	10,000	**300,000**
		Assume $40K demolition	*No*	*1*	*40,000*	*40,000*				
		Carparks	*No*	*25*	*3,500*	*87,500*				
		Entry & Exit crossings	*No*	*1*	*5,000*	*5,000*				
		Entry turning circle area	*ft2*	*4,000*	*10*	*40,004*				
		Footpaths assume 10ft wide	*ft*	*-*	*45*	*-*				
		Allowance for drainage to car park	*LS*	*1*	*15,000*	*15,000*				
		Allowance for additional earthworks	*LS*	*1*	*10,000*	*10,000*				
		Allowance for signage	*LS*	*1*	*5,000*	*5,000*				
		Allowance for carpark lighting	*No*	*2*	*5,000*	*10,000*				
		Allowance for landscaping	*LS*	*1*	*5,000*	*5,000*				
		Sub-total				*217,504*				
		A&E allowance	*%*	*217,504*	*0.15*	*32,626*				
						250,130				
		Contingency allowance	*%*	*250,130*	*0.15*	*37,519*				
		Rounding				*2,351*				
		Total Bookstore Demo & Landscaping				***290,000***				
10	Demolition of Bookstore Building I and provide for a landscaped area (either active or passive recreation)	Assume $30K demolition & allow $50K for landscaping				110,000	0	110,000	5,000	**115,000**
		Assume $30K demolition	*No*	*1*	*30,000*	*30,000*				
		Allowance for landscaping	*LS*	*1*	*50,000*	*50,000*				
		Sub-total				*80,000*				
		A&E allowance	*%*	*80,000*	*0.15*	*12,000*				
						92,000				
		Contingency allowance	*%*	*92,000*	*0.15*	*13,800*				
		Rounding				*4,200*				
		Total Bookstore Demo & Landscaping				***110,000***				
	TOTAL Kosrae 5 Year Period to 2018					**4,450,000**	**120,000**	**4,570,000**	**175,000**	**4,745,000**
	Kosrae 10 year vision (2019 to 2023)									
11	Stage 2 of the entry multipurpose building with faculty and administration functions added to building (Building 1)	*Building area excludes covered ways*	ft2	2,400		1,100,000	30,000	1,130,000	55,000	**1,185,000**
		Building area excludes covered ways	*ft2*	*2,400*	*240*	*576,614*				
		Allowance for earthworks, siteworks & drainage	*LS*	*1*	*250,000*	*250,000*				
		Sub-total				*826,614*				
		A&E allowance	*%*	*826,614*	*0.15*	*123,992*				
						950,606				
		Contingency allowance	*%*	*950,606*	*0.15*	*142,591*				
		Rounding				*6,804*				
		Total Multi-functional Building (Stage 2)				***1,100,000***				

	Fit-out - assume $10/ft2	*ft2*	*2,400*	*10*	*24,000*				
	A&E allowance	*%*	*24,000*	*0.15*	*3,600*				
					27,600				
	Contingency allowance	*%*	*27,600*	*0.15*	*4,140*				
	Rounding				*1,740*				
	Total Multi-functional Fit-out (Stage 2)				***30,000***				
12	Relocation and fitout of specialized science classroom and general classroom into Block J. Demolish old specialized science classroom and landscape area left behind with trees and study huts	ft2	4100		220,000	0	220,000	10,000	**230,000**
	Relocate existing benches and fume cupboard to Block J including new plumbing, electrical & bottled gas	*LS*	*1*	*50,000*	*50,000*				
	Allowance for refurbishment of new science classroom	*LS*	*1*	*10,000*	*10,000*				
	Allow for demolition of existing building (A) Admin & Science	*LS*	*1*	*40,000*	*40,000*				
	Allowance for landscaping	*LS*	*1*	*50,000*	*50,000*				
	Allowance for landscaping and 2No. Thatched roof study hut, solar panel & picnic table	*No*	*2*	*7,000*	*14,000*				
	Sub-total				*164,000*				
	A&E allowance	*%*	*164,000*	*0.15*	*24,600*				
					188,600				
	Contingency allowance	*%*	*188,600*	*0.15*	*28,290*				
	Rounding				*3,110*				
	Total Science Room Relocation				***220,000***				
13	Pedestrian bridge across to southern streamside bank and level area for covered open sided multipurpose drama/ recreation space - ability to seat up to 300	Asume 4,500ft2 covered / open sided space	No	1		1,050,000	0	1,050,000	50,000	**1,100,000**
	Allow for bridge (50ft long)	*No*	*1*	*50,000*	*50,000*				
	Allowance for covered open space to seat 300 people - assume 15ft2/person	*ft2*	*4,500*	*139*	*627,090*				
	Allowance for public address & data projection	*LS*	*1*	*15,000*	*15,000*				
	Allowance for toilet block & changing rooms	*LS*	*1*	*100,000*	*100,000*				
	Sub-total				*792,090*				
	A&E allowance	*%*	*792,090*	*0.15*	*118,814*				
					910,904				
	Contingency allowance	*%*	*910,904*	*0.15*	*136,636*				
	Rounding				*2,461*				
	Total Bridge & Drama/Recreation Space				***1,050,000***				
14	New storage and maintenance building (Building 2)	ft2			360,000	25,000	385,000	20,000	**405,000**
	Metal clad steel frame industrial building	*ft2*	*2,000*	*110*	*220,965*				
	Allowance for earthworks, siteworks & drainage	*LS*	*1*	*50,000*	*50,000*				
	Sub-total				*270,965*				
	A&E allowance	*%*	*270,965*	*0.15*	*40,645*				
					311,610				
	Contingency allowance	*%*	*311,610*	*0.15*	*46,742*				
	Rounding				*1,648*				

		Total Storage & Maintenance Building				***360,000***				
		Fit-out - assume $10/ft2	*ft2*	*2,000*	*10*	*20,000*				
		A&E allowance	*%*	*20,000*	*0.15*	*3,000*				
						23,000				
		Contingency allowance	*%*	*23,000*	*0.15*	*3,450*				
		Rounding				*- 1,450*				
		Total Storage & Maintenance Fit-out				***25,000***				
15	Demolish existing maintenance office and building - landscape works along the streamside	Assume $15K Demolition	No	1		150,000	0	150,000	10,000	**160,000**
		Demolish Maintenance building	*No*	*1*	*15,000*	*15,000*				
		Allowance for landscaping & study huts alongside stream	*LS*	*1*	*100,000*	*100,000*				
		Sub-total				*115,000*				
		A&E allowance	*%*	*115,000*	*0.15*	*17,250*				
						132,250				
		Contingency allowance	*%*	*132,250*	*0.15*	*19,838*				
		Rounding				*- 2,088*				
		Total Maintenance Demolition & Landscaping				***150,000***				
		TOTAL Kosrae 10 Year Vision (2019 to 2023)				**2,880,000**	**55,000**	**2,935,000**	**145,000**	**3,080,000**
		Kosrae Long term vision - beyond 2023								
16	New CRE - extension building (Building 3) either at research building site or in the community interface activity zone (2 storey)	*Building area excludes covered ways*	ft2	3,800		1,570,000	100,000	1,670,000	80,000	**1,750,000**
		Building area excludes covered ways	*ft2*	*3,800*	*260*	*987,377*				
		Allowance for lanscaping & paths	*LS*	*1*	*50,000*	*50,000*				
		Allowance for earthworks, siteworks & drainage	*LS*	*1*	*150,000*	*150,000*				
		Sub-total				*1,187,377*				
		A&E allowance	*%*	*1,187,377*	*0.15*	*178,107*				
						1,365,484				
		Contingency allowance	*%*	*1,365,484*	*0.15*	*204,823*				
		Rounding				*- 306*				
		Total New CRE Extension Building				***1,570,000***				
		Fit-out - assume $10/ft2	*ft2*	*3,800*	*10*	*38,000*				
		Allow additional fit-out for Research area	*ft2*	*3,800*	*10*	*38,000*				
		A&E allowance	*%*	*76,000*	*0.15*	*11,400*				
						87,400				
		Contingency allowance	*%*	*87,400*	*0.15*	*13,110*				
		Rounding				*- 510*				
		Total New CRE Extension Fit-out				***100,000***				
17	New Learning Resource Center (Building 4) and associated landscape works, pedestrian connections (2 storey)					2,425,000	100,000	2,525,000	121,000	**2,646,000**
		Building area excludes covered ways	*ft2*	*7,000*	*240*	*1,681,790*				
		Allowance for earthworks, siteworks & drainage	*LS*	*1*	*150,000*	*150,000*				

			Sub-total			*1,831,790*				
			A&E allowance	*%*	*1,831,790*	*0.15*	*274,768*			
							2,106,558			
			Contingency allowance	*%*	*2,106,558*	*0.15*	*315,984*			
			Rounding				*2,458*			
		Total New LRC Building					***2,425,000***			
		Fit-out - assume $10/ft2		*ft2*	*7,000*	*10*	*70,000*			
			A&E allowance	*%*	*70,000*	*0.15*	*10,500*			
							80,500			
			Contingency allowance	*%*	*80,500*	*0.15*	*12,075*			
			Rounding				*7,425*			
		Total LRC Fit-out					***100,000***			
18	Associated landscaping with the LRC - paths, shrubs, seating						560,000	0	560,000	30,000	**590,000**
		Allowance for covered walkways		*ft*	*600*	*457*	*274,299*			
		Allowance for lanscaping and seating		*LS*	*1*	*150,000*	*150,000*			
			Sub-total				*424,299*			
			A&E allowance	*%*	*424,299*	*0.15*	*63,645*			
							487,944			
			Contingency allowance	*%*	*487,944*	*0.15*	*73,192*			
			Rounding				- *1,135*			
		Total New LRC Building					***560,000***			
	TOTAL Kosrae Long Term Vision (Beyond 2023)						**4,555,000**	**200,000**	**4,755,000**	**231,000**	**4,986,000**
	Further projects (not in order of priority)										
	Provide facility for on-site water supply	25,000 gallon (100m3) per day reverse osmosis plant		LS			530,000	0	530,000	20,000	**550,000**
		Reverse osmosis unit - containerised, 25,000 gallon/day		*No*	*1*	*250,000*	*250,000*			
		Saltwater well & pipeline		*No*	*1*	*50,000*	*50,000*			
		Pumps & electrical		*LS*	*1*	*50,000*	*50,000*			
		Water storage tanks		*LS*	*1*	*50,000*	*50,000*			
			Sub-total				*400,000*			
			A&E allowance	*%*	*400,000*	*0.15*	*60,000*			
							460,000			
			Contingency allowance	*%*	*460,000*	*0.15*	*69,000*			
			Rounding				*1,000*			
		Total New LRC Building					***530,000***			
	Solar power generation	Assume $500K including associated buildings, fees and contingency		LS	1	500,000	500,000	0	500,000	25,000	525,000
	Re-route power lines across site	Assume $50K including fees & contingency		LS	1	50000	50,000	0	50,000	5,000	**55,000**
	Works to increase drainage capacity - swales and subsoil drainage	Assume $50K including fees & contingency		LS	1	50000	50,000	0	50,000	5,000	**55,000**
	TOTAL Future Projects (Kosrae)						**1,130,000**	**0**	**1,130,000**	**55,000**	**1,185,000**

GRAND TOTAL KOSRAE CAMPUS					
TOTAL Kosrae 5 Year Period to 2018	4,450,000	120,000	4,570,000	175,000	4,745,000
TOTAL Kosrae 10 Year Vision (2019 to 2023)	2,880,000	55,000	2,935,000	145,000	3,080,000
TOTAL Kosraei Long Term Vision (Beyond 2023)	4,555,000	200,000	4,755,000	231,000	4,986,000
TOTAL Future Projects (Kosrae)	1,130,000	0	1,130,000	55,000	1,185,000
GRAND TOTAL KOSRAE CAMPUS	**13,015,000**	**375,000**	**13,390,000**	**606,000**	**13,996,000**