Classroom Space Utilization and Facilities Allocation

Final Committee Report

April 4, 2016

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Preface:

Formed as a Faculty Senate Ad Hoc committee in late September 2015, the Classroom Space Utilization and Facilities Allocation (CSU) committee was given the important albeit nebulous charge of investigating classroom space utilization on campus.

Early discussion concluded that there are, in fact, multiple ways to approach such an investigation. In looking at space utilization reports from other universities, it becomes apparent that universities all over the country define "utilization" very differently. Some appear most interested in seat utilization (i.e., how "full" are the classrooms when used); others are more concerned with the percentage frequency of utilization (i.e., how many times per week a space is occupied); and still others concern themselves more complexly with the economic factors attached to such utilization. Most university space utilization reports that are made readily available are built on the foundation of statewide space utilization standards imposed upon universities in those state systems (most notably, it spears that California, Florida, and North Carolina have particularly stringent systems of space utilization standards). Absent a set of imposed state standards in West Virginia or a more defined task, the committee was left to define its own purpose and methodology.

Purpose:

Given the hearsay that WLU had either performed (or hired outside entities to produce) classroom space utilization reports, the committee felt it most important to begin gathering data. Rather than become bogged down in definitions and procedures, CSU members collected data directly from the classrooms. This direct, hands-on task accomplished two constructive goals, 1) provide Crystal Lorimor, Assistant to the Provost with up-to-date data for assigning teaching space(s), and 2) provide CSU members with a valid set of data to calculate utilization.

Methodology:

After CSU members collected classroom data, the committee enlisted the help of WLU Database Specialist, Bob Wise to export data from the Banner information computer

system that was already available for WLU courses. The export of data from Bob included courses from the spring 2016 semester only. Bob was able to write an Apex application that would export the following data fields from Banner: Room number, seating capacity, total number of students using that room, maximum number of students using the room in a single class, minimum number of students using that room in a single class, average number of students using that room in a typical class, and number of meetings per week during which that room is used.

In reviewing the results of this application, the committee found much of it to be of interest. For instance, many large classrooms were, on average, servicing relatively small classes. Some rooms that can hold 40 students were home to classes of 3 students. All of these data are interesting in their own way; however, the committee felt the most important pieces of data to review were the number of meetings per week. Recognizing the need to start somewhere and the ability to revisit other outputs of the application at a later time, the committee chose to turn its attention to the weekly percent usage as its first target.

Given this focus, the committee then looked at that particular field of results more closely revealing a few immediate issues relating to reliability of the data. For instance, there are ways in which Banner can be "fooled" by data that are entered into it. Perhaps the best example is that of cross-listed classes. Because cross-listed classes are technically inhabiting the same classroom at the same time, Banner (and therefore Bob's room usage application) counts that class twice. There are other similarly anomalous situations like this that rendered the data not 100% usable as is.

As a result, the committee undertook the task of using the Banner schedule view to "hand count" the number of class meetings per week in order to eliminate doubles, account for block classes, etc. Here is the methodology by which the hand count was undertaken:

The time parameters of the count were the hours of 8:00 a.m. and 5:00 p.m. (i.e., counting only day class space usage). Given those parameters, there are a total of 38 possible time slots available in a given M-F week: 9 time slots each on M/F, 8 time slots on W (due to the noon off hour), and 6 times slots each on T/R. Each class was then counted based on how many of the 38 time slots were taken up for that class. For instance, a 2-4:50 block class on a Monday was counted as taking up 3 time slots (the 2:00 slot, the 3:00 slot, and the 4:00 slot); whereas, class within the same time frame on a Tuesday was only counted as taking up 2 time slots (the 2:00 and the 3:30 time slots). A two-hour lab on a Friday was counted as taking up two time slots, and so on. Cross-listed classes were counted only once, and night classes were not counted (but dealt with separately). As a result, the committee arrived at a more accurate count of the number of times per week each classroom space on campus is in use.

After compiling and arranging those data for daytime hours (see the results section below), the committee also felt it was worth considering which spaces are in use during evening hours (after 5:00). A separate count of evening space usage—simply using the limitors on the WINS schedule search—was then undertaken by the committee.

Results:
1. By the effort of WLU Database Specialist, Bob Wise an Apex calendar view application was created to quickly visualize scheduled courses in each classroom.
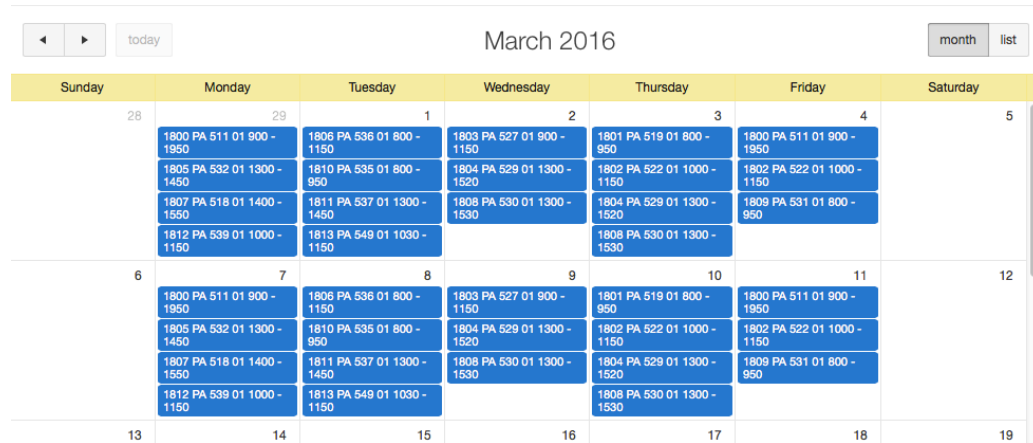
2. Evening courses – During the spring semester 2016, main campus held 24 courses beginning at or after 5:00 p.m. and ending at or before 8:50 p.m.

Building	Mon.	Tues.	Wed.	Thurs.	Fri.
Arrnett	1	1	1	0	0
Campbell	1	1	1	1	0
College Hall	0	2	0	0	0
College Union	0	0	0	0	0
Fine Arts	2	2	4	0	0
Library	0	0	0	0	0
Main Hall	2	2	1	2	0

3. Highest utilization – The main campus had 12 lecture classrooms servicing between 21 and 31 course meetings.

Building	Room	Course Meetings
CAMP	C313	31
MAIN	M224	31
MAIN	M223	26
FINEA	F210	25
LIB	L10	24
MAIN	M222	23
ARNETT	A317	22
LIB	L12	22
LIB	L13	22
MAIN	M221	22
MAIN	MB50	22
MAIN	M338	21

4. Lowest utilization – The main campus had 13 lecture classrooms that held 10 or fewer course meetings.

Building	Room	Course Meetings
MAIN	MB10	3
MAIN	M349	5
ASRC	AS3B	6
MAIN	M270	6
CAMP	C110	7
MAIN	M368	8
UNION	CU22	8
MAIN	M324A	9
MAIN	M339	9
MAIN	M369	9
ARNETT	A107	10
ARNETT	A305	10
MAIN	M327	10

5. Highlands courses – Six of the nine classrooms are being utilized for undergraduate and graduate classes all five weekday evenings and during the day on Saturdays, 17 undergraduate classes and 24 graduate classes. 8 and 16 week courses are offered at the Highlands.

Room	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
208	U			U, U		
209						
210						
211	G	G	G	G		G
212	G	G	G	G	G	G
213						
225	G	U	G	G		U
226		U	U	U		U
228	U	U				U

Observations:
1. Banner data examined by the committee were found to be inaccurate and therefore "could be" misleading if used to calculate utilization reports.
   a. Building ASRC and ASRC2 contained data on the same classroom (AS2). Neither building had the same number of available seats.
   b. Building Highlands contained 8 duplicate classrooms (208, 209, 211, 212, 213, 225, 226, and 228 each "with" and "without" an "H" prefix).
   c. Period count – the calculation of courses containing laboratories is inconsistent with respect to the number of periods that the class occupies a classroom. Sometimes a course with a lab is counted as a "1" for a three hour block while other times a course with a lab is counted as "3".

2. The formula for determining "classroom utilization' varies wildly across reports reviewed by this committee. With the absence of a state approved, or state recommended formula and low evening course offerings currently available at WLU, it is recommended that WLU calculate periods of utilization to end at 5:00 p.m.

3. Perceived ownership – the committee agrees that classroom space and technology assigned to that classroom across main campus is generally viewed as "decentralized" space assigned and managed by individual colleges.

4. Classroom technology replacement – the committee agrees that funding for technology replacement is "decentralized". Equipment costs for replacing a projector or projector lamp is a departmental responsibility.

5. Inconsistent room identification, some building report room numbers as a number, others use an alpha prefix.

6. The Highlands rents space on weekdays before 5:00 p.m. to outside groups. Rentals are reportedly less during the 2015 – '16 academic year than the previous year.

Future Research Considerations:
1. The committee would like further examine the data we collected against the data entered in the Banner computer information system however this analysis requires an additional time commitment of Bob Wise.

2. Many committee members acknowledge that there should be further analysis to examine how time(s)/day(s) that classes are held, length of sessions (8 or 16 week), and location (online, Highlands, or main campus) may have an impact on utilization.