

## **Recommendations for Classroom Utilization Data Quality Problems**

Analysis of classroom data in SIS and the Facilities Building and Room files resulted in the identification of the following data quality problems. Unless these problems are addressed accordingly, the University's classroom utilization reporting will continue to be inaccurate.

- A. **Problem:** The **codes** used to identify **buildings**, are different in SIS and the Facilities files. The former are abbreviations of building names used for the Course Schedule Book, while the latter are the numeric codes used by the CPE. The **building names** are also inconsistent between SIS and the Facilities Building file.

**Status:** A table is currently maintained in SIS that has the cross-reference between the building abbreviations used in SIS, and the building codes in the Facilities file. This table was used in order to "match" the data for the classroom utilization reports generated for this committee.

### **Recommendations:**

- 1) This table must continue to be kept current within SIS.
- 2) Both the SIS and Facilities building codes should be stored on the records within the Data Warehouse for internal reporting purposes.
- 3) ALL institutional reporting from the Data Warehouse should use the Facilities building code and name that corresponds to the data sent to the CPE.
- 4) The Facilities building code and name used for data sent to the CPE should be used within any new systems purchased by the University.

- B. **Problem:** The **codes** used to identify **rooms** are different in SIS and the Facilities files, and there is **no standard** for the room numbers consistently followed within each system.

**Status:** The conversion of the SIS room numbers to match the corresponding room numbers in the Facilities file had to be done with a FOCUS program, by iteratively manually coding for variations of the room numbers across terms. However, this logic did not address all variations in the room numbers, and further research needs to be completed in order to eliminate the remaining errors.

### **Recommendations:**

1. A standard must be established and enforced for room number designations.
2. A study should be conducted of the room numbers printed on campus signs, and their consistency with the data standard established above. Evaluation of costs should be completed for creating signs consistent with

the data format, as students use output from the systems (i.e. Course Schedule Book) to locate courses.

3. This standard should be used within any new online system.
4. Historical/official room number data (i.e. snapshots) sent to the CPE should remain intact in the Data Warehouse for accuracy, with a cross-reference to the new “standard” room number used in other data in the Data Warehouse. Other historical room number data should be corrected to the new standard prior to loading the data into the Data Warehouse.
5. Both the SIS and Facilities room numbers should be stored on the records within the Data Warehouse for auditing purposes.
6. ALL institutional reporting from the Data Warehouse should use the room numbers that correspond to the room numbers sent to the CPE.

- C. **Problem: Rooms and buildings** that are **no longer in existence** are **removed** from the **Facilities Building and Room files**, and archived to tape.

**Status:** This situation results in the inability to accurately report classroom utilization on historical data. The fact the number of rooms in SIS that were not identified in the Facilities Room file dropped from **173 to 88** when we changed the evaluation criteria from the **most recent 12 years to 5 years**, illustrates the extent of impact of this problem, in conjunction with Problem B above. Inability to find these rooms in the Facilities file resulted in the inability to relate course enrollment data to physical space usage, physical space limits and official room use codes.

**Recommendations:**

1. Programs should be modified to add an “activity” flag on the Building and Room files in the Facilities system, and purging to tapes should be discontinued. Any rooms and building no longer in existence would simply be flagged as “inactive”, rather than being purged to tape.
2. All purged building and room data archived to tape should be loaded into the Data Warehouse, with a flag indicating the space is no longer active.
3. Matching of historical SIS and Facilities data should be redone, following the load of the archived data, and the data cleansed prior to loading into the Data Warehouse and in accordance with the recommendations in A and B above.

- D. **Problem: Medical Center professional school course meeting patterns** (day, time and location) are **not recorded in SIS**.

**Status:** This situation results in the inability to accurately report classroom utilization to the CPE.

**Recommendations:**

1. Medical Center course meeting patterns should be entered into SIS for any future terms.

2. Historical Medical Center course meeting patterns should be extracted, cleansed and loaded into the Data Warehouse in accordance with the recommendations in A and B above.

E. **Problem:** Other **incomplete meeting patterns are recorded in SIS.**

**Status:** This situation results in the inability to accurately report classroom utilization to the CPE. It can occur as a result of an inaccurate Activity Type on the course, which determines whether a structured meeting pattern is required, or can simply be the result of missing data for courses that should legitimately require a structured meeting pattern. Another possibility is that some of these are times “to be arranged” by the professor on an ad hoc basis. A recent report run on the **two summer and fall terms of 2002** data identified **847 records** missing some or all of the meeting pattern data (i.e. time, day, building and/or room) for courses with an Activity Type requiring structured meeting patterns. **638** of these errors were for courses where only one meeting pattern was specified.

**Recommendations:**

1. Discrepancies on the course Activity Type and the associated meeting pattern data should be researched, and corrected where possible online.
2. Historical/official meeting pattern data (i.e. snapshots) sent to the CPE should remain intact in the Data Warehouse for accuracy, but other historical data should be corrected prior to loading the data into the Data Warehouse.

F. **Problem:** **Rooms** are identified in the Facilities Room file as **classrooms and class labs** (Room Use codes of 110 and 210 respectively), but have **no courses associated with them in SIS.**

**Status:** This situation results in the University reporting classroom and class lab space that appears to be under-utilized to the CPE. A report run on the most **recent 5 years** of data identified **127 (62 in the Medical Center and 65 in other areas)** rooms identified in the Facilities Room file as classrooms and class labs, but were not in SIS. This could be because the Room Use codes in the Facilities Room file are incorrect, in conjunction with Problems B and D above.

**Recommendations:**

1. A complete audit of all rooms needs to be conducted to identify classrooms and class labs at the University and corrections made to the data accordingly.
2. Criteria should be established to determine when a room becomes a classroom and class lab, versus other space. Should it depend on the number, type and hours of courses consistently taught in the space over terms?

- G. **Problem:** There are **inconsistencies in the room seating (station) capacity** identified in **SIS and the Facilities Room file**.

**Status:** This affects our classroom and class lab occupancy rate reported to the CPE. It could also produce different report results, depending on which field was used for the analysis. A report run on the most **recent 5 years** of data identified **205 rooms** identified in both SIS and the Facilities Room file with different room seating (station) capacity.

**Recommendations:**

1. As part of the audit of all rooms noted above, evaluation of the physical limits of the space needs to be conducted and corrections made to the data accordingly.

- H. **Problem:** **No integrated database** that includes facilities data, and student and employee data on the use of these facilities.

**Status:** This contributes to all of the above problems, and the problems noted above are only in relationship to classroom and class lab data in SIS and the Facilities files. Additional problems will likely be uncovered when attempting to merge data from the two Physical Plant systems, the Room Scheduling System, the Communications and Networking database, etc.

**Recommendations:**

1. The University should pursue the implementation of a Facilities and Equipment database that is integrated with other institutional systems.