Is there a Standard?

Yes, there are 2 types of classroom standards (at UofT):
(1) The required standards are a list of general prescriptions from Campus and Facilities Planning:
the 'Design Criteria for Classrooms' (PDF)
(2) The recommended standards are a far more detailed and comprehensive group of guidelines for all aspects of classroom design. This large volume of material is like a menu of available options for the design client. It is all tested in real OSM classrooms. All of these guidelines are from Burl Crone at OSM.
www.osm.utoronto.ca

Are we forced to follow the guidelines?
Yes and No.
The Design Criteria for Classrooms PDF is a very general document and is required.
The 'Classroom Data' OSM guidelines are optional. Your department is not required to follow the guidelines, but in most cases the department or persons doing the project select which aspects they want (from the Classroom Data) and present that to the project architects as required. Apart from that, the architects have public access to all the data so they can use it to fill in all their own knowledge gaps in the project. If you want, submit your plans to Burl at OSM to see if they get the 'OSM stamp of approval'.

How were the standards made?
90% of them we made in-house at UofT starting in 2008.
Burl was hired to measure and draft classrooms, and then to draw up plans of existing rooms, and then draw up planned rooms. Since 2010 he's been provided with interns to collect data. A lot of his info came from Ernie Lopez, head of A/V at OSM, Steve Bailey, director of OSM, and Andy Allen, operations manager at OSM. Facilities Planning and Capital projects have chipped in a lot of autocad plans and lots of facilities-level

information. In 2010 Burl was hired full time (once he graduated from the Daniels faculty of Architecture with his M.Arch) to design classrooms, related spaces, and standards pertaining to such design. Every year we apply what we've learned to summer construction projects, and modify the standards based on how our changes perform the follow winters. It's a Design/Construction, Summer/Winter cycle. I've also read articles and books on the subject, but frankly, those have not been a great deal of help. Working at ground level with operations and talking to professors, students, engineers and architects directly is providing the real details needed for proper design.

What are the design basics?

1. Keep it simple
2. Plan A/V, furniture and ceiling heights right from the start. Draw in wheelchair spaces from day one.
3. Keep like rooms similar (this makes room booking easier in the long term)
4. Make a simple menu of room types for the different department needs
5. Be very specific in specifying lighting, including location and number of switches
6. Design each space for optimal performance for its main use and to keep the design simple to allow reconfiguration (for example, keep rooms rectangular without chamfered walls, and avoid raised daises at room fronts). Multi-use spaces tend to perform worse at each use type. There is always a cost!
7. Keep it squarish. Having studied literally hundreds of rooms and room types, it's become clear that all classrooms any size (incuding halls for 750) should be generally square in shape. Preferred ratio between 1:1 and 2:3 for width:depth or depth:width will provide best longest term performance.

Why are so many classrooms designed badly?

Generally they are not. It's just that people take classrooms designed in the 1960's and expect them to perform at 2011 standards without having even replaced the chairs. If you put zero effort in you will get poor performance out. Contemporary classroom design is typically quite good; however architects are not specialists in classroom design so the client has to be well organized. If you leave it all to the architect you will not get the performance you want. You are the classroom expert for your facility – be prepared to communicate.

TIPS

#1: do classroom renovations more often then you build new buildings.
#2: buy new furniture more often then you renovate. Plan for 10-15 year cycle.

What are typical problems in classroom design?

1. The architects have never designed classrooms before
2. The client has nobody who will translate ideas from the professor to the architect
3. The required ceiling height is not determined by the client before design begins
4. The client does not supply a minimum lighting level and lighting plan
5. The architect squeezes the medium size classrooms into the slab floor-to-floor height of the smaller classrooms
6. The architect trims 15% from classroom allocated NASM when the project design comes in over budget
7. Adequate crush space is not left outside of medium and large size classrooms/halls
8. The client does not get all of their classroom requirements organized before the architect begins design
9. A/V is not integrated in room design from the earliest stages
10. The architect copy-pastes design elements from previous projects that do not suit the classroom program
11. Architects and client administrators decide that seminar rooms don't need exterior windows

What are typical successes in classroom design?

1. The client uses an email thread to get input from the department and uses the same thread to publicly explain decisions – this is all before the architect is involved. This way you can sort out blackboards vs. whiteboards and determine if the screen should be in the middle or off to the side.
2. The client makes sure the architect shows all furniture, including wheelchair spaces on room design plans from day one. That way you can see if it actually fits.
3. The client makes sure their requirements are possible. Asking for a wireless teatherless movable podium that has 4 power outlets on it is a guarantee you will not get what you want.
4. Let the architect do their job. Client administrators who start trying to micromanage design decisions (like colors and styles) will stymie the professional designers, resulting in the architects losing interest in the project (very bad). The client provides performance criteria; when the architect is hired they (and not the

client) are designated to have authority on how to meet those criteria. Everybody wants to be a designer – but a good client recognizes that they are amateurs in this area and should trust the professionals.
5. Function over form. The architect and client must realize that the teaching that goes on in the classroom is the star of the show – not the room itself. Innovative designs often sacrifice room performance through the goal of making a more 'interesting space' (which is a mistake. It is the professor's lecture and the student discussion that needs to be interesting). A well designed box with a high ceiling, durable simple finishes, good simple artificial lighting, great AV connectivity and an appropriate amount of outdoor light will be a performance home run.

CHECKLIST

Are the classrooms a simple square /rectangular shape?

Are the clear ceiling heights high enough (has your AV person approved them)?

Is all your AV specified, including screen sizes and locations?

Is your lighting designed in with at least 2 levels and at least 2 zones, with no more than 5 manual switches?

Are the light switches full manual control at the front with master on/off at exits?

Are commercial quality window coverings part of the project?

Are there drawings of the room front elevations, approved by your faculty, with A/V screens?

Is there enough space in the halls for when classes change?

Do you know what kind of AV podium you are using? Is it the same in all rooms?