Introduction of the OAA Future Classroom and Related Important Information

I. About the Future Classroom

Future Classrooms are located on the 4th floor of the Zonghe Lecture Building (originally classroom 401), the 4th floor of the Boya Lecture Building (originally classroom 406), and the 1st floor of the Gongtong Lecture Building (originally classroom 103) at the Main Campus. They are currently under the management of the Digital Learning Center, Office of Academic Affairs. The design concepts of the Future Classroom include:

1. **The introduction of advanced teaching equipment**
   Future Classroom in the Zonghe Lecture Building offers 9 wall-mounted interactive touch displays, one high-end touchscreen computer at the lectern, 20 sets of VR head-mounted display and other teaching equipment.
   Future Classroom in the Boya Lecture Building offers 1 moveable interactive touch display for teacher and 6 wall-mounted interactive touch displays for students.
   Future Classroom in the Gongtong Lecture Building offers 1 moveable interactive touch display for teacher and 8 wall-mounted interactive touch displays for students.

2. **The implementation of IoT technology**
   The interactive touch display comes with the built-in digital whiteboards, internet connectivity, USB file access, and other functions that support the display of diverse teaching materials.

3. **In line with the BYOD trend**
   The Classroom supports wireless projection from various laptops and mobile phones, improving the source-switching efficiency and reducing layout issues or incompatibilities.

4. **Creating a technology-embedded-active learning environment**
   The Classroom has features such as one-touch screen broadcasting, movable desk and chair, adjustable lighting, and ample space for flexible movement, which increases interactions between teacher and students as well as student groups.

II. List of Equipment in the Future Classroom

【Future Classroom in the Zonghe Lecture Building】

Type	Item	Quantity	Remark
Microphone	Wireless Handheld Microphone	8	
	Wireless Ear-Hook Microphone	1	
	Wired Handheld Microphone	1	
Display	75" Interactive Touch Display	3	Located at the front of the classroom (side-by-side but the screen images are not continuous)
	65" Interactive Touch Display	6	3 on each side of the classroom
Lectern Computer	Microsoft surface studio 2	1	Win11 operating system, touchscreen
Desks and Chairs	Long Discussion Tables	12	Movable tables and the table surface can be written on (with whiteboard markers)
	Student Seats	42	Movable chairs with writing boards
Central Control System	iPad (embedded central control software)	1	Controlling all the screen displays and the classroom lighting
Wireless Projection	Projection Dongle	14	2 * 7 sets
VR Head-Mounted Display	VIVE Cosmos	12	PCVR Headset
	VIVE Focus3	20	All-in-one VR Headset
	VIVE Flow	10	Light VR Glasses
	Meta Quest 3	13	All-in-one VR Headset
High-End Laptop	ASUS ROG Strix G16	5	Use with the VIVE Cosmos Headset
	MSI GE76	7	
360°Camera	GoPro Max	5	Including charger, battery, memory card, and tripod
	RICOH THETA X	6	
Wireless Display Adapter	Microsoft Wireless Display Adapter	14	Project the image from the VR headset
	Google Wireless Display Adapter	8	
Stationery, Consumables	Whiteboard Markers, Whiteboard Erasers, Batteries	Supplied by the Digital Learning Center based on the amount required by the lesson.	

【Future Classroom in the Boya Lecture Building】

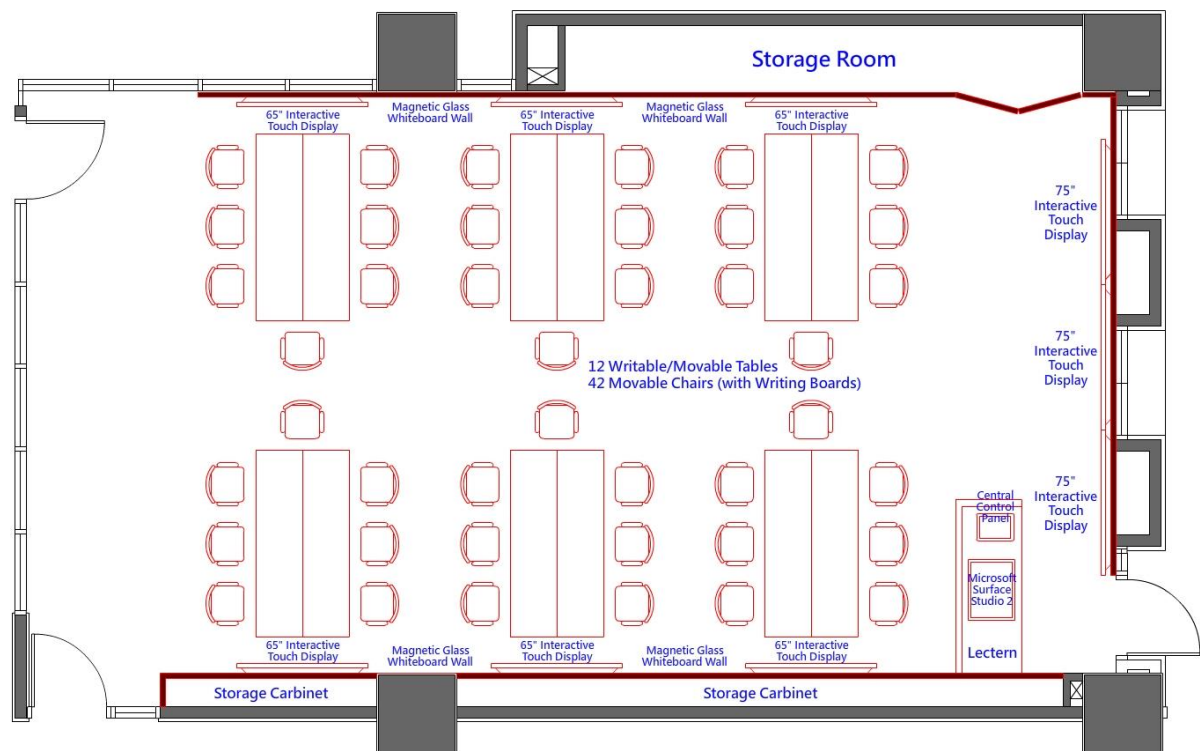| Type	Item	Quantity	Remark
Microphone	Wireless Handheld Microphone	8	
	Wireless Ear-Hook Microphone	1	

Display	75" Interactive Touch Display	1	Located at the front of the classroom, moveable
	65" Interactive Touch Display	6	3 on each side of the classroom
Projector	Laser Projector	1	Located at the front of the classroom
Lectern Computer	PC	1	Win11 operating system
Desks and Chairs	Long Discussion Tables	12	Movable tables and the table surface can be written on (with whiteboard markers)
	Student Seats	36	Movable chairs
Central Control System	iPad (embedded central control software)	1	Controlling all the screen displays
Wireless Projection	Projection Dongle	22	3 * 7 sets +1
Stationery, Consumables	Whiteboard Markers, Whiteboard Erasers, Batteries	Supplied by the Digital Learning Center based on the amount required by the lesson.	

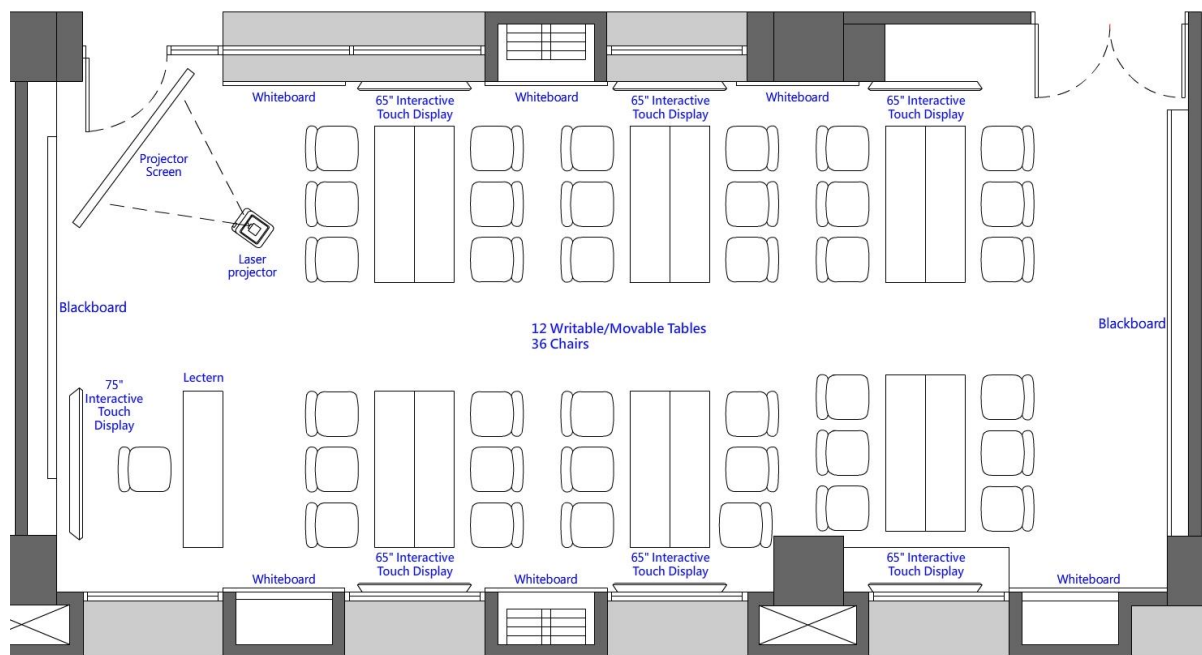【**Future Classroom in the Gongtong Lecture Building**】

Type	Item	Quantity	Remark
Microphone	Wireless Handheld Microphone	9	
	Wireless Ear-Hook Microphone	1	
Display	86" Interactive Touch Display	1	Located at the front of the classroom, moveable
	75" Interactive Touch Display	8	3 on each side of the classroom, 2 at the back of the classroom, unmovable
Projector	Laser Projector	2	One is located at the front of the classroom, the other is at the back of the classroom
Lectern Computer	PC	1	Win11 operating system
Desks and Chairs	C-Shaped Lectern	1	270∘C-shaped table, moveable
	Trapezoid Table	60	Movable tables and the table surface can be written on (with whiteboard markers)
	Student Seats	60	Movable chairs
Central Control System	iPad Pro (embedded central control software)	1	Controlling all the screen displays
Wireless Projection	Projection Dongle	29	3 * 9 sets +2
Whiteboard	Moveable Whiteboard & Stand	8	Moveable, double-sided whiteboard
Stationery, Consumables	Whiteboard Markers, Whiteboard Erasers, Batteries	Supplied by the Digital Learning Center based on the amount required by the lesson.	

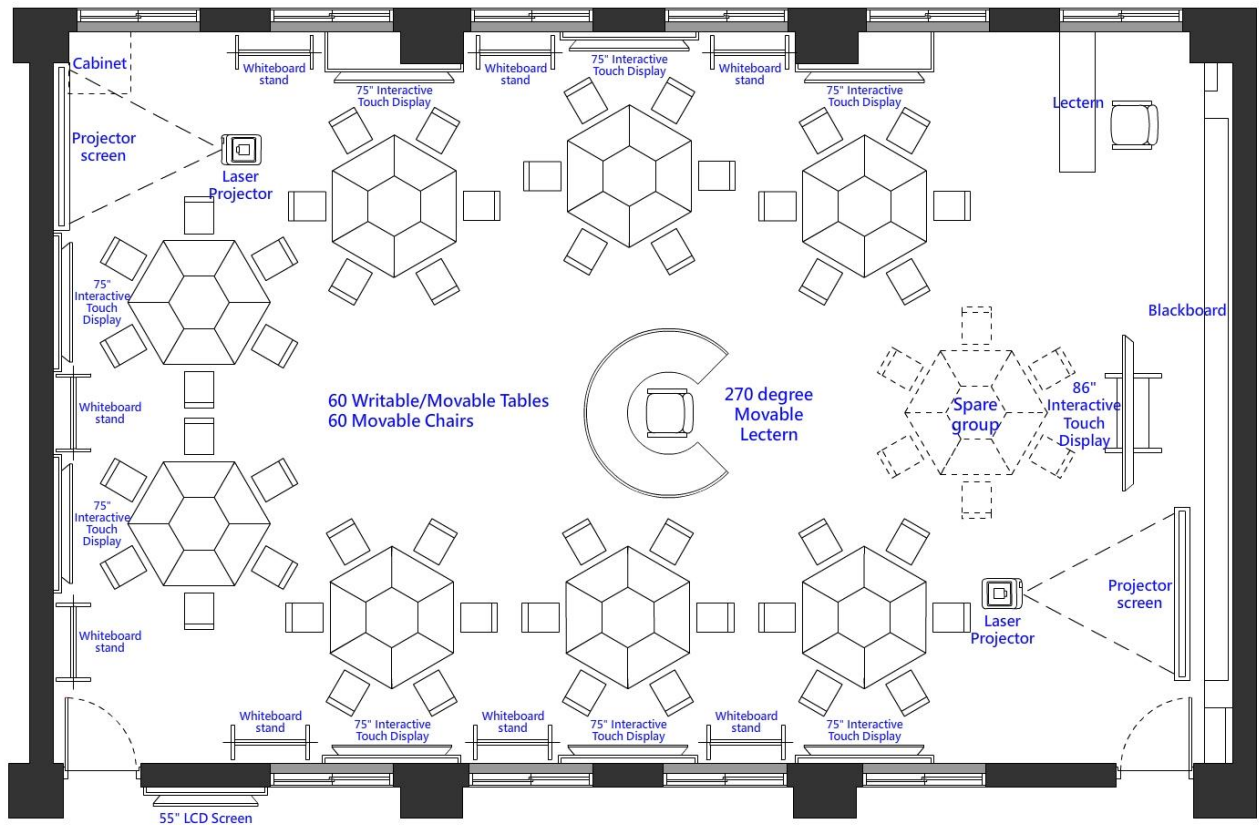# III. Interior Layout Plan of the Future Classroom

【Future Classroom in the Zonghe Lecture Building】

【Future Classroom in the Boya Lecture Building】

【Future Classroom in the Gongtong Lecture Building】

Cabinet

Projector screen

Laser Projector

75" Interactive Touch Display

Whiteboard stand

75" Interactive Touch Display

Whiteboard stand

Whiteboard stand

75" Interactive Touch Display

Whiteboard stand

75" Interactive Touch Display

Whiteboard stand

75" Interactive Touch Display

Lectern

Blackboard

Spare group

86" Interactive Touch Display

60 Writable/Movable Tables
60 Movable Chairs

270 degree Movable Lectern

Laser Projector

Projector screen

Whiteboard stand

75" Interactive Touch Display

Whiteboard stand

75" Interactive Touch Display

Whiteboard stand

75" Interactive Touch Display

55" LCD Screen

IV. Photos of the Future Classroom

【Future Classroom in the Zonghe Lecture Building】

Exterior

Classroom view from the front door - 1

Classroom view from the front door - 2

Classroom view from the back

Lectern at the front of the classroom

3 screens at the front of the classroom

【Future Classroom in the Boya Lecture Building】

Exterior

Classroom view from the front door - 1

Classroom view from the front door - 2

Classroom view from the back

Lectern at the front of the classroom

Screens and the blackboard at the front of the classroom

【**Future Classroom in the Gongtong Lecture Building**】

Exterior

Classroom view from the front door

Classroom view from the back door

Classroom view from the back

Lectern at the front of the classroom

Eye view from the C-Shaped Lectern

V. Overview of the Functions of the Future Classroom
(The Introduction Video for the Future Classroom 1.0)

(I) What new features does the Future Classroom have compared to traditional classrooms?

1. Multi-Screen Display

The interactive touch displays can individually show different teaching materials, without the need for constant screen switching.

2. Image Transmission between Displays

The central control system can transmit images across the 9 displays. Anywhere in the classroom can be the center stage.

3. Digital Whiteboard - Multi-Touch

The digital whiteboard supports simultaneous multi-touch. All group members can participate the discussion at the same time, without the need for a whiteboard marker, which is clean and convenient.

4. Digital Whiteboard - Borderless Extension

The digital whiteboard can create unlimited pages, eliminating the need for clearing the whiteboards.

5. Digital Whiteboard - Content Storage and Sharing

The digital whiteboard supports QR code scans download and USB file saving, making it easy to take away the essential information from the lecture.

6. Note-Taking on Any Screen Image

Any screen image on the displays, whether it is a presentation slide, web page or picture, can directly be marked or made notes.

(II) What are the Future Classroom's more convenient functions compared to traditional classrooms?

1. Multi-Screen Split

Each display can support simultaneous projections from 4 devices (Zonghe & Gongtong Lecture Building) / 6 devices (Boya Lecture Building), which is very convenient for group discussions.

2. Massive Writing Space

The walls of the classroom and the surfaces of the tables can be written on with whiteboard markers, allowing every idea to be easily recorded and never lost.

3. Flexible Seating Arrangements and Lighting Adjustments

【Zonghe & Gongtong Lecture Building】All the tables and chairs can be moved freely. There are several lighting options that can be chosen and adjusted. The classroom supports various teaching scenarios.

【Boya Lecture Building】All the tables and chairs can be moved freely.

4. Remote Teaching

The classroom offers external webcams and wireless microphones for direct audio reception so that the teacher may walk around freely without being tied to the lectern.

VI. Important Information about Using the Future Classroom

1. There is a large number of electronic equipment and tools in the classroom. In order to prevent damage and facilitate maintenance, **eating and drinking are not allowed in the classroom except for drinking water**. For classes starting at 8AM or classes during lunchtime, please consider instructing the students to comply with this requirement.

2. The classroom has adapters, button transmitters for wireless presentation system, and other small-sized equipment. Please verify that the used equipment is placed in its original storage location and that the quantities of the equipment are correct prior to the end of the class.

3. The classroom is equipped with access control and access is limited to the ID cards of Teachers and Teaching Assistants (TA) of the courses in the current semester.

4. Following above, initial use of the classroom requires more effort to become familiar with and to maintain the classroom environment. Teachers are recommended to arrange TAs or class leader to assist with opening and closing of the classroom, distributing equipment, equipment retrieval and inventory, and other tasks.

※ **Guided tours of the NTU Future Classroom are available to the faculty through reservations.**

Contact Information:
Digital Learning Center   Ms. Su
TEL: 02-3366-3367#588
E-mail: itingsu214@ntu.edu.tw