

Course Description Form

1. Course Name:	
Air Conditioning systems Drawing	
2. Course Code:	
MPAC309	
3. Semester / Year:	
Annual	
4. Description Preparation Date:	
2024/09/23	
5. Available Attendance Forms:	
<input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab	
6. Number of Credit Hours (Total) / Number of Units (Total)	
Number of Credit Hours (116) / Number of Units (7)	
7. Course administrator's name (mention all, if more than one name)	
Name: Assist. Lech. Hussein Ali Jaffar Email: hussain.a.j@gmail.com	
8. Course Objectives	
Course Objectives	<ol style="list-style-type: none"> 1. To enable and qualify the student to understand the architectural plans and their sections. 2. To draw and understand the mechanical layouts of the ducting network for ventilation. 3. To provide the ability to draw the piping network of the central air conditioning systems with all the necessary accessories of valves, fittings and sensors. 4. To draw the detail drawings of the air conditioning devices of fan coil units, chillers, boilers, air handling units, and cooling towers. 5. To design VRF systems for selective AC companies. 6. To understand the electrical and control diagrams of the air conditioning systems
9. Teaching and Learning Strategies	
Strategy	<p>The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises. This will be achieved through classes, interactive tutorials and by considering some simple real projects as well as site visiting for finished and ongoing projects.</p>

10. Course Structure	
	Material Covered
Week 1	Making site survey
Week 2	Draw architectural plans
Week 3	Draw elevation plans
Week 4	Cooling load estimation
Week 5	Specify the required ventilation
Week 6	Package units, fan coil units and AHUs selection
Week 7	Design ducting network by Duct Sizer
Week 8	Drawing ducting network
Week 9	Midterm Exam
Week 10	Chillers, boilers, cooling towers and pumps selection
Week 11	Design piping system by Pipe Sizer
Week 12	Drawing the piping system
Week 13	VRV/VRF system design and drawing
Week 14	Drawing the electrical and control diagram of central air conditioning system
Week 15	Drawing the electrical and control diagram of VRV/VRF systems
11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc	
12. Learning and Teaching Resources	
Main references (sources)	2021 ASHRAE handbook. Fundamentals
Recommended books and references (scientific journals, reports...)	Design manual for heating, ventilation and air conditioning with coordinated standard details: Lee Kendrick, Julian C. Gonzalez, 1986
Electronic References, Websites	Principles of heating, ventilating, and air conditioning: a textbook with design data based on the 2021 ASHRAE handbook--Fundamentals