Course Syllabus

020CTHGS4 – Building Thermal Design

1. **Course number and name:** 020CTHGS4 – Building Thermal Design
2. **Credits and contact hours:** 2 credits – 17.5 hours
3. **Instructor's or course coordinator's name:** Said CHEHAB
4. **Textbook and other supplemental material:**
   a. Instructor's class notes
5. **Specific course information**
   a. **Catalog description:** this course aims to provide the students all the elements necessary to realize the thermal design of a building while ensuring maximum comfort for the user. The topics include: Comfort conditions, Construction material, Thermal Insulation , Thermal resistance, U transfer, Efficient glazing, Building inertia, Thermal bridge, Ventilation, Thermal load, Low consumption building, LEED certification, Boilers, Radiators, Convectors, Floor heating, Fan-coil, Air handling unit, Heating pipes, Expansion tank, Burner, Fuel storage, Chimney, Solar water heater, Domestic hot water, Heat pump, Air conditioner, Reverse cycle cooling-heating, Chillers.
   b. **Prerequisites:** 020ENVGS1 Environment and Sustainable Development
6. **Required/Elective/Selected Elective:** Required major course for the Buildings and Engineering Management Option**.**
7. **Specific goals for the course**
   a. **Specific outcomes of instruction:**
      By the end of the course, the student will be able to explain, size and select thermal building material, heating and cooling systems and components.
   b. **KPIs addressed by the course:**

KPI	a2	c1	e1
Covered	x	x	x
Assessed			
Give Feedback			

8. **Brief list of topics to be covered and approximate number of lectures:**
   - Thermal Comfort: 2X2, 15
   - Building Energetics: 6X1, 15
   - Heating Systems: 6X1, 15
   - Cooling Systems: 4X1, 15