

## CURRICULUM VITAE

**Surname** : Abu-Tabra  
**Forename** : Talib K. Murtadha  
**Date of birth** : Iraq - 1957  
**Occupation** : Associate Professor,  
Air Conditioning and  
Refrigeration Engineering  
**Place of work** : Mechanical Engineering  
Department,  
Faculty of Engineering,  
Mu'tah University,  
**E-mail** : [talib\\_km@mutah.edu.jo](mailto:talib_km@mutah.edu.jo)  
[talib\\_km@yahoo.com](mailto:talib_km@yahoo.com)  
**Phone (Mobile)** +962 799291459



### Academic Qualifications:

- 1- B.Sc. Mechanical Engineering Technology from University of Technology, Baghdad, Iraq, 1979.
- 2- Higher Diploma in Air Conditioning and Refrigeration from University of Technology, Baghdad, Iraq, 1981.
- 3- M.Sc. in Air Conditioning and Refrigeration from University of Technology, Baghdad, Iraq, 1983.
- 4- Ph.D. in Mechanical Engineering/ HVAC, Technical University of Budapest, Hungary, 1992.

### Science Degrees:

- 1- Assistant Lecturer: 1984
- 2- Senior Lecturer (Assistant Professor): 1992
- 3- Associate Professor: 1999

### Teaching Experiences:

- 1- Advanced Heating, Ventilating, Air-Conditioning Engineering, M.Sc.
- 2- Advanced Refrigeration, M.Sc.
- 3- Energy Conservation, M.Sc.
- 4- Renewable Energy Systems, M.Sc.
- 5- Wind Energy, M.Sc.
- 6- Energy Conversion, M. Sc.
- 7- Energy Efficiency, M. Sc.
- 8- Photovoltaics, PV, M. Sc.
- 9- Thermo-fluid Science, M. Sc.

- 10- Advanced Operations Research, M.Sc.
- 11- Advanced Eng. Mathematics, M.Sc.
- 12- Advanced Numerical Analysis, M.Sc.
- 13- Air-Conditioning Systems Design, B.Sc.
- 14- Refrigeration Systems, B.Sc.
- 15- Numerical Applications in Thermo-fluids, B.Sc.
- 16- Heat Transfer, B.Sc.
- 17- Thermodynamics, B.Sc.
- 18- Fluid Mechanics, B.Sc.
- 19- Internal Combustion Engine, B.Sc.
- 20- Turbomachinery, B.Sc.
- 21- Engineering Analysis, B. Sc.
- 22- Industrial Energy Management, B.Sc.
- 23- Probability & Engineering Statistics, B.Sc.
- 24- Operations Research, B.Sc.

**Professional Experience:**

1. Supervised for 7 Ph.D. and more than 30 M.Sc. students.
2. Published various scientific papers (30 No.) in Air Conditioning and Refrigeration, Renewable Energy, Energy conservation, Heat Transfer, Alternative Refrigerants.
3. Lectured a course in Advanced Air Conditioning, Advanced Refrigeration, Solar Thermal Energy, Energy Conservation, Renewable Energy Systems, Thermo-fluid Science, Wind Energy, and Advanced Numerical Analysis for M.Sc. students...etc.
4. Granted a patent titled, Domestic Magnetic Refrigerator Design, 2017.
5. Head of preparation team of Iraqi cooling code, 2012.
6. Head of Air Conditioning & Refrigeration Branch 1997 – 1999.
7. Head of Technical Education Department, University of Technology, 2000 – 2003.
8. Associate of American Society of Heating, Refrigerating and Air-Conditioning Engineers, ASHRAE.
9. Offered consultancy services as a mechanical engineer through the University of Technology Consultancy Bureau and served as board member of 32 years.
10. Head of University of Technology Consulting Bureau 2000.
11. Carried out as a Mechanical Engineer Consultant for the below projects during the last 20 years.

## **Dr.Talib K. Murtadha**

### **❖ Supervision of Ph.D Students:**

- 1- "Experimental and Theoretical Study Using the Passive Solar Chimney for Evaporative Cooling With PCM and CFM as a Thermal Energy Storage"\ U.O.T. – Baghdad\ July 2017.
- 2- "Experimental and Theoretical Investigation of Magnetic Refrigerator Performance"\ U.O.T.-Baghdad\ July 2015.
- 3- "The Effect of the External Magnetic Field on the Natural Convection Heat Transfer of a Liquid Metal in an Enclosed Cubic Cavity"\ U.O.T. - Baghdad June 2005.
- 4- "Numerical and Experimental Investigation of Gas Turbine Combustor"\ U.O.T. - Baghdad\ January 2005.
- 5- "Numerical and Experimental Investigation For A Counter Flow Cooling Tower Performance"\ U.O.T. - Baghdad\ April 2004.
- 6- "Numerical and Experimental Study of Enhancement of Heat Transfer in Roughened Ribbed Duct" \ U.O.T. - Baghdad\ January 2004.
- 7- "Numerical and Experimental Investigation of Laminar and Turbulent Mixing of Two Streams"\ U.O.T. - Baghdad\ December 2001.

### **❖ Supervision of Master's Degree Students:**

- 1- "Solar Passive Heating Strategies Performance And Management Investigation of Jordan Low-Middle Income Houses" Mutah University, Dec. 2020.
- 2- "Energy Management in Residential Building Using Phase Change Materials" Mutah University, Dec. 2020.
- 3- "The Effect of Preventive Maintenance on Operation Cost and Production Loss" Mutah University, Dec. 2020.
- 4- "Performance Evaluation of Solar Photovoltaic Panel under Different Cooling Methods" Mutah University, Apr. 2020.
- 5- "Waste Heat Recovery in Cement Plant with Thermo-Electric Generator Implementation" Mutah University\ Apr. 2019.
- 6- "Photovoltaic Optimization Using Arduino Microprocessor Based on Maximum Power Point Tracking under Partial Shading" Mutah University\ Aug. 2019.

- 7- "Numerical and Experimental Study for the Airflow and Temperature Distribution in Operating Room".\ U.O.T.- Baghdad\ Jan. 2016.
- 8- "Using the TermoDeck System for Pre-Cooling/ Heating to Control the Building Inside Conditions"/ U.O.T.-Baghdad\ March 2014.
- 9- " Experimental and Numerical Method for Calculating Latent Heat Storage in Constructions Conraining Phase Change Material"\ U.O.T. Baghdad\ November 2013.
- 10- "دراسة عملية لأداء الأسطح الإنتقائية المستخدمة في المجمعات الشمسية"/ الجامعة التكنولوجية/ 2012.
- 11- "Numerical Study of A Mechanically Ventilated Clean Room"\ U.O.T.- Baghdad\ May 2004.
- 12- "Numerical Study of Isothermal and Non-Isothermal Flow in Ventilated Room"\ U.O.T.- Baghdad\ Sep.2003.
- 13- "Numerical Study of Laminar and Turbulent Heat transfer in a Duct With Two Right-Angle Bends"\U.O.T.- Baghdad\ Sep.2003.
- 14- "دراسة الاداء الحراري لوسائط التبريد الهيدروكاربونية البديلة في الغرف المبردة"/ الجامعة التكنولوجية- بغداد/ تموز 2003.
- 15- "دراسة الأداء الحراري لوسائط التبريد الهيدروكاربونية البديلة في الطرق المبردة"/ الجامعة التكنولوجية- بغداد/ تموز 2003.
- 16- "دراسة تأثير كثافة السائل المراد رفعه ودرجة حرارة الهواء المجهز على عمل مضخة الرفع الهوائية"/ الجامعة التكنولوجية- بغداد/ تموز 2002.
- 17- "محاكاة تصميم مبخر صفيحي مدرقل يعمل بموائع التثليج البديلة لـ R-12"/ الجامعة التكنولوجية- بغداد/ حزيران 2002.
- 18- "تصميم منظومة تثليج امتصاصية لمحطة كهرباء الدورة باستخدام الحاسوب"/ الجامعة التكنولوجية- بغداد/ كانون الثاني 2002.
- 19- "محاكاة منظومة تثليج انضغاطية والبحث عن بديل مائع التثليج المستخدم وتأثيره على طبقة الأوزون بأسلوب برمجي"/ الجامعة التكنولوجية- بغداد/ تشرين الأول 2001.
- 20- "مقارنة أداء مائعي التثليج R-22 و R-290 في منظومة تثليج انضغاطية ودراسة تأثيرهما على الأنبوب الشعري"/ الجامعة التكنولوجية- بغداد/ نيسان 2001.
- 21- "مقارنة الجريانين الأديبائي واللاأديبائي لمائعي التثليج R-12 & R-134a داخل الأنبوب الشعري"/ الجامعة التكنولوجية- بغداد/ أيار 2001.
- 22- "دراسة تأثير درجة حرارة الخليط ثنائي الطور على أداء المضخة الفقاعية"/ الجامعة التكنولوجية- بغداد/ تموز 2000.
- 23- "المماثلة العددية لمتلج ماء انضغاطي باستخدام موائع تثليج بديلة عن مائع التثليج R-22"/ الجامعة التكنولوجية- بغداد/ تموز 2000.
- 24- "محاكاة منظومة تثليج انضغاطية باستخدام موائع التثليج الأمنية على طبقة الأوزون"/ الجامعة التكنولوجية- بغداد/ نيسان 2000.

- 25- "تحديد الطرائق الملائمة لحساب السريان الحراري عبر الجدران والسقوف المحلية"/ الجامعة التكنولوجية- بغداد/ نيسان 1999.
- 26- "دراسة الاهتزاز في المجاري الهوائية"/ الجامعة التكنولوجية- بغداد/ شباط 1999.
- 27- "تطوير وتقييم منظومة تبريد أمتزازية مفتوحة"/ الجامعة التكنولوجية- بغداد/ تشرين الأول 1997.
- 28- "استخدام الحاسبة في محاكاة وتصميم مبادل حراري صفائحي"/ الجامعة التكنولوجية- بغداد/ آب 1998.

### ❖ **Published Scientific Papers**

1. "Thermal Efficiency for Passive Solar Chimney With and Without Heat Storage Material", Al-Khwarizmi Engineering Journal, No. 5, Volume 26, 2020.
2. "Transient Behavior Analysis for Solar Energy Storage in PCM-CFM Material Using Equivalent Heat Capacity Method as Storage Model", Al-Khwarizmi Engineering Journal, Vol. 14, No.2, 2018.
3. "Experimental and Numerical Study of Closed Loop Solar Chimney Assisted with PCM and CFM as Thermal Energy Storage Collector" Eng. &Tech. Journal, Vol.34, Part (A), No.13, 2016.
4. "Experimental Study Using the Passive Solar Chimney for Evaporative Cooling With PCM and CFM as a Thermal Energy Storage" Al-Khwarizmi Engineering Journal, Vol. 12, No. 3, 2016,
5. "Simplified Numerical Modeling of One-Dimensional Active Magnetic Regenerator"\ SAUSSUREA (ISSN: 0373-2525), 2015\ Volume 5 (7):PP. 237-253
6. "Practical Study of Magnetic Refrigeration Performance and Optimization"\ IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE)\ e-ISSN: 2278-1684,p-ISSN: 2320-334X, Volume 12, Issue 2 Ver. II (Mar - Apr. 2015), PP 71-80.
7. "A Novel Design of a Domestic Magnetic Refrigerator"\ International Journal of Application or Innovation in Engineering & Management (IJAIEEM)\ Volume 4, Issue 2, February 2015.
8. "Effect of Vibration on the Air Flow Characteristic in a Duct" Eng. and Tech. J., U.O.T, Vol. 18, No. 5, 1999.
9. "Using TermoDeck System for Pre-Cooling/ Heating to Control the Building Inside Conditions"\ Al-Khwarizmi Engineering Journal, Vol. 10, No. 3, P.P. 13-24\ 2014.

10. "Manufacturing and study the performance of selective surfaces that used in flat plate solar collectors", University of Baghdad, College of Engineering, Vol. 20, Issue 4 (30 Apr. 2014), pp.21-40, 20 p.
11. "Three-Dimensional Computation of Turbulent Natural Convection in the Presence of Magnetic Field" *J. J. Indian Inst. Sci.*, Nov.–Dec. 2006, 86, 705–721
12. "Heat Transfer Enhancement in a Ribbed Duct" *The Journal of Engineering Research*, Vol 3, No. 1, January 2006
13. "Laminar and Turbulent Natural Convection Heat Transfer of a Liquid Metal in an Enclosed Enclosure " *Engineering Journal of the University of Qatar*, Vol. 19, 2006, pp.69-81
14. "A Three-Dimensional Study of Laminar and Turbulent Wall Jets" *Eng. and Tech. J.*, Vol 24, No.7, 2005
15. "Simulation of Design of Roll Bond Evaporator Working With Alternatives Refrigerants of R-12" *Eng. And Tech. J.*, Vol. 24, No. 1, 2005.
16. "Design of An Absorption Refrigeration System For Al-Dura Power Station By Using The Computer" *Al- Muhandis J*, 2003.
17. "The Effect of Lifted Liquid Density And Air Supply Temperature on The Function of Air Lift Pump" *Eng. And Tech. J.*, Vol. 24, No. 1, 2005.
18. "Numerical Study of Three- Dimensional Laminar and Turbulent Wall Jet" *Eng. and Tech. J.*, U.O.T, 2003.
19. "Numerical Study of Three – Dimensional Laminar and Turbulent Wall Jet" *Eng. And Tech J.*, U.O.T, 2003.
20. "Performance Simulation of Single – Evaporator Domestic Refrigerator Using Alternative Refrigerants" *Engineering Journal of the University of Qatar*, Vol. 16, 2003, pp.109-124.
21. "Numerical Prediction of Three Dimensional Turbulent Heated Free Jet. *Eng. And Tech. J.*, Vol. 21, No. 2, 2000.
22. "Numerical Modeling of Single and Two-Phase Flow in Capillary Tube with Metastable Process" *Eng. And Tech. J.*, U.O.T, Vol. 21, No. 3, 2000.
23. "Study of Two – Phase Flows in Capillary Tube" *Al- Muhandis J.*, No. 1, March – 2000.
24. "The Effect of Wind Velocity on the Heat Transmission Through Local Walls and Roofs Calculated Using the Separation of Variables Method" *College of Eng. J.*, Sad. U., Vol. 4, No. 1, 2000.

25. "Numerical Model For Compression Refrigeration Cycle of Water Chiller Using R-22" 1<sup>st</sup>. Conference, Eng. College, Al Kofa Unversity, 2000.
26. "The Effect of Lifted Liquid Density And Air Supply Temperature on The Function of Air Lift Pump" 1<sup>st</sup>. Conference, Eng. College, Al Kofa Unversity, 2000.
27. "Designing and Development of Open Adsorption Cooling Unit" Eng. And Tech. J., Vol. 19, No. 6, 2000.
28. "Numerical Prediction of Laminar Mixing of Two Parallel Streams in A Duct with Different Velocity and Temperature Ratios" Engineering J., University of Baghdad, Vol. 6, No. 3, 2000.
29. "The Effect of Air Duct Dimension and Metal on its Vibration Behavior By Adopting Plate Theory" Eng. And Tech. J, U.O.T, Vol. 19, No. 3, 2000.
30. "Evaluation Performance of Plate Heat Exchange" Eng. and Tech. Jornal, U.O.T, Vol. 19, No. 2, 2000.

❖ **Mechanical Engineer Consultant for the Following Projects**

No.	Project Name	Work Specification	A/C System
1	<b>SUWAYRAH AIRBASE PROJECT</b> Air Force College and HQs Buildings Iraq 2016	Head of Mechanical Team  Contribution and Reviewing Mechanical Design. & Superintending.	Air Handling Unit & Fan-Coil Systems Pumps Circulation
2	<b>IRAQ MILITARY 400BED GENERAL HOSPITAL</b> 18 Buildings 5Floors Baghdad 2011- 2015	Contribution and Reviewing Mechanical Design. & Superintending.	Air Handling Unit & Fan-Coil Systems Pumps Circulation Water Cooled Chillers VAV Systems
3	<b>MINISTRY OF HEALTH Babylon Health Directorate Accidents Building</b> 4 Floor 2015	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, And Equipment Designing, Specifying and Selecting, Such As Packaged Units, Air Terminals, Fans...etc.	Unitary System, (Packaged Units)
4	<b>MINISTRY OF HEALTH Babylon Health Directorate Medical Committees Center</b> 4 Floor 2014	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, And Equipment Designing, Specifying and Selecting, Such As Packaged Units, Air Terminals, Fans...etc.	Unitary System, (Packaged Units)
5	<b>MINISTRY OF HEALTH Medical City Baghdad Hospital</b> 12 Floors 2014	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, Piping And Equipment Designing, Specifying and Selecting, Such As Pumps, A.H.U, Fan-Coils, Fans,.etc.	Air Handling Unit & Fan-Coil Systems Pumps Circulation Water Cooled Chillers
6	<b>MINISTRY OF YOUTH AND SPORT BAGHDAD SPA BUILD.</b> 4 Floors 2013	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, And Equipment Designing Specifying and Selecting, Such As AHU, Chillers, Air Terminals, Fans...etc.	Air Handling Unit & Fan-Coil Systems Pumps Circulation Air Cooled Chillers
7	<b>Byt Al-Hekma Iraqi Ministry council</b> 1 Buildings 3Floors Baghdad 2012	Reviewing Mechanical Design. & Superintending	Single Zone A.H.U. Fan-Coil Systems Constant Air Volume Air Cooled Chillers



8	<b>Electrical Stations</b> 6 Buildings 2Floors Baghdad 2012	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, And Equipment Designing Specifying and Selecting, Such As AHU, Chillers, Air Terminals, Fans...etc.	Air Handling Unit & Fan-Coil Systems Pumps Circulation Air Cooled Chillers
9	<b>Najaf Bus Stations</b> 7 Buildings 2Floors Najef 2011	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, And Equipment Designing Specifying and Selecting, Such As Packaged Units, Air Terminals, Fans...etc.	Unitary System, (Packaged Units)
10	<b>Jelod Al-Kofa Factory</b> 1 Buildings 1Floors Baghdad July- 2009	Load Estimation, Designing of A/C Systems (Cooling & Ventilating) Including Ducting And Equipment Designing Specifying and Selecting, Such As Air Washers, Fans, Air Terminals...etc.	Evaporative Cooling (Air Washers)
11	<b>Iraqi Central Bank</b> 3 Buildings 13, 8 & 7 Levels Baghdad January- 2010	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, Piping And equipment Designing Specifying and Selecting, Such As Chillers, Cooling Towers, Pumps, A.H.U., Fans, Air VAV Terminals ..etc.	Single Zone & Multi-zones A.H.U. (VAV) Variable Air Volume Water Cooled Chillers
12	<b>Islamic University</b> 12 Buildings 4Floors Baghdad July- 2009	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, And Equipment Designing Specifying and Selecting, Such As Packaged Units, Air Terminals, Fans...etc.	Unitary System, (Packaged Units)
13	<b>Secak Institute</b> Ministry of Transportation 20 Buildings Baghdad June- 2009	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, And equipment Designing Specifying and Selecting, Such As Packaged Units, Air Terminals, Fans...etc.	Unitary System, (Packaged Units)
14	<b>Fallujah Funfair</b> (Ministry of Industry) 23 Buildings Fallujah City January- 2009	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, And equipment Designing Specifying and Selecting, Such As Packaged Units, Air Terminals, Fans...etc.	Unitary System, (Packaged Units)

15	<b>U.O.T Tower</b> (Ministry of Higher Education & Science. Research) 22 Floors Baghdad, December- 2008	Reviewing Mechanical Design.	Single Zone A.H.U. Constant Air Volume Air Cooled Chillers
16	<b>Ministry of Planning</b> Building (A) 12 Floors Offices And Halls Baghdad July- 2008	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, Piping And equipment Designing Specifying and Selecting, Such As Chillers, Cooling Towers, Pumps, A.H.U., Fans, Air Terminals ..etc.	Single Zone A.H.U. Constant Air Volume Water Cooled Chillers
17	<b>Ministry of Planning</b> Building (B) 8 Floors Offices And Halls Baghdad July- 2008	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, Piping And equipment Designing Specifying and Selecting, Such As Chillers, Cooling Towers, Pumps, A.H.U., Fans, Air Terminals ..etc.	Single Zone A.H.U. Constant Air Volume Water Cooled Chillers
18	<b>Water Directorate B.</b> 5 Floor Offices, Halls, Labs. Babylon January-2008	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, Piping And equipment Designing Specifying and Selecting, Such As Chillers, Pumps, A.H.U., Fans, Air Terminals ..etc.	Single Zone A.H.U. Constant Air Volume Air Cooled Chillers
19	<b>Main Club</b> (Foreign Ministry) 4 Floors Baghdad December- 2008	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, And equipment Designing Specifying and Selecting, Such As Packaged Units, Air Terminals, Fans...etc.	Unitary System, (Packaged Units)
20	<b>Al Anbar Municipalities</b> (Ministry of Municipalities & Works) Al Anbar November - 2008	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, And equipment Designing Specifying and Selecting, Such As Packaged Units, Air Terminals, Fans...etc.	Unitary System, (Packaged Units)
21	<b>Administration Building</b> (Ministry of Electricity) Baghdad October - 2008	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, And equipment Designing Specifying and Selecting, Such As Packaged Units, Air Terminals, Fans...etc.	Unitary System, (Packaged Units)

22	<b>Mansur Shopping Center</b> 11 Floors Mall, Shops, Bank, Apartments, Restaurants, Net Work, Cafeterias. Baghdad September - 2007	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, Piping And equipment Designing Specifying and Selecting, Such As Chillers, Pumps, A.H.U., Fans Coils, Fan, Air Terminals...etc.	Air Handling Unit & Fan-Coil Systems Water Cooled Chillers
23	<b>Hilla Government Build.</b> 4 Floors Offices And Halls Babylon January-2007	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, Piping And equipment Designing Specifying and Selecting, Such As Chillers, Pumps, A.H.U., Fans, Air Terminals ..etc.	Single Zone A.H.U. Constant Air Volume Air Cooled Chillers Split Unit A/C.
24	<b>Main Club</b> <b>Ministry of Water Resources</b> Multi-Purpose Hall, Net Work, Restaurants, Cafeterias..etc. Baghdad March-2007	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, And equipment Designing Specifying and Selecting, Such As Packaged Units, Air Terminals, Fans...etc.	Unitary System, (Packaged Units)
25	<b>Emam Ali Hospital</b> 5 Floors Operating Theaters, Patient Halls...etc. Baghdad 2007	Reviewing Mechanical Design. & Superintending	Air Handling Unit. Air Cooled Chillers
26	<b>Rusafa Drinking Water</b> Baghdad 2007	Reviewing Mechanical Design.	Roof Mounted Condensing Units Air Handling Units Air Ventilation System
27	<b>Media Training Institute</b> 5 Floors Offices, Halls, Studios Baghdad July-2006	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, Piping And equipment Designing Specifying and Selecting, Such As Chillers, Pumps, A.H.U., Fans, Air Terminals ..etc.	Single Zone A.H.U. Constant Air Volume Air Cooled Chillers
28	<b>Al-Iraqia Studio</b> 3 Floors Studio, Labs, Offices Baghdad September-2006	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, Piping And equipment Designing Specifying and Selecting, Such As Chillers, Pumps, A.H.U., Fans, Air Terminals ..etc.	Single Zone A.H.U. Constant Air Volume Air Cooled Chillers

29	<b>Dukaan Dam Guest House &amp; Derben. Dam Guest House</b> July-2006	Reviewing Mechanical Design	Unitary System
30	<b>Workshops</b> (Ministry of Electricity) Baghdad December-2006	Load Estimation, Designing of A/C Systems (Cooling & Ventilating) Including Ducting And Equipments Designing Specifying and Selecting, Such As Air Washers, Fans, Air Terminals...etc.	Evaporative Cooling (Air Washers)
31	<b>Laboratories &amp; Guest House Ministry of Water Resources</b> Laboratories, Halls, Offices And Apartments. Baghdad March-2005	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, And equipment Designing Specifying and Selecting, Such As Packaged Units, Air Terminals, Fans...etc.	Unitary System, (Packaged Units) & Evaporative Cooling (Air Washers)
32	<b>Bekhma Dam Guest House</b> Multi-Purpose Hall, Net Work, Restaurants And Apartments. Bekhma Dam December-2004	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, And Equipment Designing Specifying and Selecting, Such As Packaged Units, Air Terminals, Fans...etc.	Unitary System, (Packaged Units)
33	<b>Students Center</b> University of Technology Multi-Purpose Hall, Net Work, Restaurants, Cafeterias...etc. Baghdad September-2002	Load Estimation, Designing of A/C Systems (Cooling, Heating And Ventilating) Including Ducting, And Equipments Designing Specifying and Selecting, Such As Packaged Units, Air Terminals, Fans...etc.	Unitary System, (Packaged Units)
34	<b>Themar University</b> Themar/ Yemen /2001	Reviewing Mechanical Design.	Unitary System, (Packaged Units)
35	<b>Al-Rahman Mosque</b> Baghdad, 2001	Reviewing Mechanical Design	Air Handling Unit. Water Cooled Chillers