

CURRICULUM VITEA

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NAME : HISHAM A.G GHALAYINI
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Education

University : University of Toledo-Toledo, Ohio USA
Degree : Bachelor of Science in Mechanical Engineering
Years of Study : From 1981 to 1985
Graduation date : August 24, 1985

Work Experience

Business Address : American University of Beirut
Department : Mechanical Engineering Dept.
Position Held : Administrative Supervisor of Mechanical Engineering Labs.

TETRACOM S.A.L
Sales Engineer - Assistant Sales manager in EPABX Systems.

3M GULF in LC's

Duties Performed:

(Year 1986 - 1988) Assisting in sales EPABXs and modems

(Year 1988 - 1989) Training in 3M Gulf in Dubai - UAE in packing, documents and issuing LC's letter of credits.

(Year 1990-1991) 1-Weather Station: Rehabilitation of the old weather station, located on top of Wing C in 1991, and was recently moved to Engineering Bechtel roof. The station was equipped with Q-NET integrated system data logger station packs 2050 (with led display) and 2060, and were connected in series and equipped with the following sensors:-
a- Self aspirated radiation shield- 8141 & model 5190 temperature and relative humidity probe.
b- Double dome radiometer (Pyranometer model 3016).
c- Barometric pressure model 7105A, Q-NET 2050.
d- Rain precipitation rate gauge in millimeters-6011A, 2050 station pack.
e- Wind direction 2020 & wind speed 2030 model, station pack 2050.
f- Infra-red solar radiation model 3020 station pack 2060.
g- Ultra-violet solar radiation station pack2060.
h-These meteorological most sophisticated data acquisition systems (QUALIMETRICS) were first connected and put in use by Hisham Ghalayini on top of Engineering Bechtel roof (August, 1999). Besides, a monthly weather bulletin's issuance and distribution all over, Lebanon and the Arab world, that were prepared by Prof. N. Ghaddar.

(Year 1988-1999) I was also involved in experimental course work of ME Lab I, II, III & IV courses and Automotive Engine shop course. I worked

closely with second year students in assembling , discussions and running of huge number of experiments in air-conditioning, heat transfer, fluid mechanics, Internal combustions and jet propulsions, solar water collectors systems and running the Rolse - Royce diesel and Gasoline engines .

As for automotive engine shop duties were in the disassembly and re-assembly of engine's parts and discussions on gear system, automatic transmission system and ignitions and electrical systems etc...

Besides my duties of working as an administrative supervisor of ME labs of following up of inventories counts, handling, organizing stocks, monitoring ordering and receiving new equipments, setups of new experiments, FYP students advising helping and consulting, issuing of service requests, maintenance and lab enhancements, research and designs of projects and executions managing classes with graduate students and setting up modified schedules as suggested by faculty members.

I was assigned in charge of the projects that took place at AUB beach by Professor Karim Abdul Malek concerning the "Spin to Win" contest of amphibious vehicles and "Sail or Fail" contest in years 1998 to 1999.

I had assembled the Universal Testing Machine, by Hounsfield CO., on the 1st floor of Wing C. My work involved the installation of the grips and strain extensometer for deflection, down loaded the software and ran the test trials on tension, compression and flexures of steel specimens. Also, there was a problem with the grips where it needed a special technician from the manufacturer for repairing wise, and I was able to modify them to make a perfect gripping of small size specimens to larger ones. Extensometer was also hitting the grips and I manipulated the fixtures in moving them away from the grips.

Cairo - Egypt Unesco Conference on New and Renewable Energy: I was sent by A.U.B university to attend a training sessions on New and Renewable energy for a period of fourteen days in Cairo- Egypt to represent Lebanon in the UNESCO conference. The tournament was in the domain of solar water collectors systems and photo voltaic panels in the year 1996.

(Year 2000-2003)

Assembling a sophisticated data processed Microscopes (#3) for Metallurgy, and got a good focus on metal's microstructures and boundary layers constituents. Then, I designed, executed a Universal C mount adapter to modify a digital camera to the microscope in order to be able to take clear shots of the metal grains microstructures, and it worked systematically. I also fixed a damaged 250 lbs- load cell, and was tested under several loads to make sure it's reading properly and comparing the data to the manufacturer's manual.

Assembling sophisticated indoor Climatic Environmental Chamber that can be used for environmentalist temperatures and relative

humidity testing, ice making tests, Refrigerators & Air conditioning systems. The machine's reading sensors can be connected to a remote panel that is data logged to a DLS 102 logger, using a lap-Top PC /or a conventional PC, you can monitor the testing ambient conditions inside the chamber.

I had fixed the chamber's mal-function problem of the alarm system that goes on, five minutes after starting the AC unit. The fault was discovered after a series of fault message signals and turned out to be a contaminated gas in the system.

Executed a weather station tower installation on Roof of Wing B building, with enclosure box that was equipped with #2 CR23X data loggers and 2 backed up batteries. The station tower held temperature sensors, relative humidity (RH%) sensor, wind speed and direction sensor, ultraviolet and global solar radiometers (CM3-CG4-PSP etc..), and finally with a precipitation rate accumulation gauge.

(Year2004-2006)

Prepared and executed the **Mechanical Engineering undergraduate quality lab manual**, with proper maintenance schedule plan, techniques and documented maintenance procedures and house keeping with almost 150 pages.

I worked closely with A.U.H medical center, professor Dr. Said Saghiah (Bones surgeon at AUH) and his assistant Ms. Laura Daoush, on Rabbit bones compression testing, using the UTM (universal testing machine) that was collaborated with ME Dr. Kinda Khalaf, and AUH bones Surgeon Dr. Tony Bazi. Also, I conducted a series of human's skin tissues tensile testing on the UTM machine with Dr. Tony Bazi.

I performed a great number of tests to Clients, from outside AUB, for testing thermal conductivity of buildings and insulated materials and issued certificates with results for a specified fee charge as requested by the ME faculty members.

Number of UTM tensile testing of elastomers, steel, textiles and other materials were conducted for client from outside AUB for a specified fee charge as requested by ME Faculty members.

(Year2006/2007)

I disassembled the power control system, sensors and wiring diagrams utilities, the wall sandwiched panels of a huge indoor climatic environmental chamber, from the Mechanical engineering labs of wing C building. It was re-assembled at the new CCC-SRB building, 4th floor of Mechanical engineering labs with the installation of power, connections and sensors and data entry utilities.

I dis-assembled a huge air wind tunnel from the fluid dynamics lab of wing C building and had it re-assembled in ME labs of CCC-SRB, 4th floor building.

Dis-assembling the huge parabolic solar water concentrators with 8 mirrors (2 meters long each) that were seated on a big steel chassis of size 10m x 10m and had it re-assembled back

on roof of Engineering Bechtel. Also, the assembly of the solar water collector systems on roof of SRB, ASHRAE project of desiccant and sensible wheels for de-humidifying the air.

(Year 2008-2011)

A number of experiments on new and renewable energy and HVAC for research purposes were executed with temperature and flow sensor's utilities. I was working on the field as a sight engineer on the following research experimental setups:

- Solar certification unit experiment, for testing of water solar collectors systems.
- Solar desalination unit experiment, where salt water is purified into saline drinkable fresh water.
- Outdoor climatic chamber on Engineering Bechtel roof, for research study of HVAC and AHU and FCU, that are data logged.
- Gas fired absorption chiller that works on ammonia gas and feeding it with hot water, to come up with chilled ambient conditions.
- Air handling and fan coil units that involve the use of desiccant and sensible energy recovery wheels systems to de-humidify, heat, pre-heat or cool the ambient air.
- Vacuum tubes solar system setups are connected to water desalination units to come up with soft water.
- Water Regenerator, dehumidifier, desiccant heat exchanger and desiccant chiller setups are used to obtain a fresh soft water.

REFERENCES

: Supplied upon request.