Nationality: USA, Lebanese Email: mmf31@aub.edu.lb

EDUCATION

## American University of Beirut, Beirut Lebanon

Bachelor of Chemical Engineering

Sep. 2009 - Present

• Expected Graduation Date: June 2013

Relevant Courses

Chemical Process Optimization Mechanics of Composite Materials Polymer Science and Technology Chemical Product Design

Biochemical and Bioprocess Design Corrosion

**Engineering Materials** Chemical Process Design Analytical and Instrumental Chemistry Petroleum Engineering Separation Processes Safety and Loss Prevention

Heat and Mass Transfer Operations Processing Control

Professional EXPERIENCE

#### Ciment de Sibline S.A.L.

Intern in the Quality Control Lab

Jun. 2012 - Aug. 2012

- Updated the plant's conversion factors of raw material consumption versus clinker production.
- Conducted a control strategy for the optimization of raw material consumption to reduce financial losses.

## American University of Beirut

Research Assistant with Prof. S. Seifeddine

Jun. 2011 - Jun. 2012

• Conducted an extensive literature survey on the interaction between intermetallics, porosity and oxide films defects and their effects on the mechanical properties of aluminum cast alloys. Analyzing, summarizing and drawing conclusions for hundreds of technical papers published in the field of casting defects.

### American University of Beirut

Research Assistant with Prof. M. Al-Hindi

Sep. 2009 - Jun. 2011

- Developed among a group of five colleagues a questionnaire to assess the readiness and acceptance of the Lebanese public to the introduction of renovated water as an additional resource to solve the water balance crisis Lebanon faces seasonally.
- Established an approach for the study on the acceptability of usage of renovated water that is suitable for the Lebanese society based on international studies and the characteristics of the Lebanese society.
- Worked cooperatively among a group and successfully accomplishing tasks within deadlines.

Relevant PROJECTS

- Designed and simulated a coal power plant based on a fluidized bed gasifier in an integrated gasification combined cycle. With low emissions of sulfur oxides and nitrogen oxides.
- Designed a pesticide sensor based based on Molecularly Imprinting Polymers (MIPs)detection method, for detecting pesticides in vegetables.
- Simulated using ASPEN HYSYS a phthalic anhydride production plant and performed an economic feasibility analysis according to the simulation.
- Designed and constructed a computer automated model for a water level system which acquired data from tank levels and sent data to coordinate the function of pumps and valves using Lab-VIEW and NI DAQ.
- Designed and constructed a catchment system model selective to processionary caterpillar which utilized solar energy to exterminate the attracted caterpillars through heat.

TECHNICAL SKILLS

- Aspen HYSYS, Aspen Plus
- C++, LabVIEW, Matlab, Simulink
- Scanning electron microscopy
- Materials universal testing machine
- UV/VIS/NIR spectrophotometer
- Atomic absorption spectrophotometer

- Gas chromatography mass spectrometer
- Windows (2000, XP, Vista, 7), Microsoft Word, Excel, PowerPoint, Access
- AutoCad, Autodesk Maya, Adobe Photoshop

# SERVICE AND ACTIVITIES

- ASME member
- Participated in the student parliament lobbying for the enforcement of environmental legislations in Lebanon.
- Member of CHESS (Chemical Engineering Student Society at AUB)
- Member of Engineering for Change global development community
- Co-authored and starred in a play titled "EntroShima" dealing with the analogical view of entropy in thermodynamics to events in real life.
- Designed posters, diaries, book covers, invitation cards, and brochures.

#### LANGUAGES

Excellent speaking and writing skills in English and Arabic

#### References

- Prof. Salem Seifeddine, Assistant Professor ME Department, AUB, ss145@aub.edu.lb, +961(0)1 350000, ext. 3479
- Prof. Mahmoud Al-Hindi, Assistant Professor ME Department, AUB, ma211@aub.edu.lb, +961(0)1 350000, ext. 3433
- Other references available upon request.