Emad Bani Melhem

M.Sc. Mechanical Engineer

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Professional Experience

2026 - Present **Lecturer – Engineering - Technical College**

Jadara University, Irbid, Jordan

- Lecturer at Electric and Hybrid Vehicle Service Department

2025 - 2026 **Teaching Assistant**

Jordan University of Science and Technology, Irbid, Jordan

- Participating in teaching courses (SolidWorks, AutoCAD) and correcting student classwork.

2022 - 2024 **Teaching Assistant**

Hashemite University, Zarqa, Jordan

- Participating in teaching practical courses and correcting student reports.
- Assisting in the completion of scientific research for faculty members.

2021 - 2024 **Projects Engineer**

Tabaria for Renewable Energy Company, Irbid, Jordan

- Design solar energy systems according to the required standards and specifications.
- Verify that the system components comply with the required standards.
- Supervise the installation of solar energy systems.

2020 **Mechanical Engineer Trainee**

Jordan Phosphate Mines Company, Amman, Jordan

- Training on equipment and machinery: Learning how to use and maintain mechanical equipment and machinery used in the phosphate industry.
- Practical and field training: Working at various company sites such as laboratories, factories, and field locations to gain practical experience in a real industrial environment.

Education

2021 - 2024 **M.Sc. in Mechanical Engineering / Energy Systems**

Hashemite University, Zarqa, Jordan

2015 - 2020 **B.Sc. in Mechanical Engineering**

Jordan University of Science and Technology, Irbid, Jordan

Publications

- **Thermoelectric and Solar Photovoltaic Synergy for Optimized Trans-critical CO_2 Refrigeration in Hot Climates.**
  Heat Transfer, 2025 – Wiley.

- **Hybrid Solar-Assisted Trans-critical CO_2 Refrigeration Cycle Optimization with Internal Heat Exchanger for Hot Climate Applications.**
  Thermal Science and Engineering Progress, 2025 – Elsevier.

- **Enhancing Heat Transfer Performance of Solar-Powered Trans-critical CO_2 Refrigeration Cycles Using Solar-Driven Mechanical Subcooling.**

Training Courses

- **Specialized Occupational Safety and Health Supervisor Course.**
  Jordanian Pulse Academy – Sep 2024

Software

- Matlab
- Engineering Equation Solver (EES)
- Solidworks
- AutoCAD
- Creo (Pro Engineer)
- PVsyst
- SkitchUp
- Arduino
- C++
- Microsoft Office (Word, Excel, etc...)

Languages

- **Arabic** (Native)
- **English** (Very Good)