

Ahmad Raja Abdel AL

Phone Number: +962796281082 | Email: arabdelal@just.edu.jo

LinkedIn profile: <https://www.linkedin.com/in/ahmad-abdel-al-555317185/>

SUMMARY

- Instructed advanced design and structural techniques using AutoCAD, SolidWorks, and Creo Parametric, applying engineering drawing standards (GD&T) to define precise dimensions and tolerances, and Design for Manufacturing (DFM) principles to ensure designs are practical, manufacturable, and aligned with real aeronautical requirements.
- Specialized in advanced manufacturing processes and manufacturing quality, focusing on process optimization in 3D printing, CNC machining, and welding processes (TIG, MIG, and MAG), with emphasis on improving precision, efficiency, material performance, quality control, and continuous improvement strategies.
- Specialized in Materials Science and Engineering, with emphasis on microstructural characterization, tribology, corrosion mechanisms, and surface modification of advanced alloys and coatings for industrial and aeronautical applications.
- Specialized in industrial and workshop facility-related OHS instruction, emphasizing compliance with OSHA.
- Experienced in human factors in industrial environments, focusing on ergonomics, human performance, error prevention, workplace safety, and human machine interaction, supported by real industrial case studies to enhance productivity, safety, and operational efficiency.
- Proficient in data analysis and in applying Lean Manufacturing, supply chain management and Six Sigma principles to enhance operational efficiency and quality.
- Experienced in academic research support, including manuscript drafting, editing, citation management, and coordination with co-authors to ensure accurate, well-formatted, and publication-ready submissions.

EDUCATION

M.S., Industrial Engineering

Jordan University of Science and Technology – ABET Accredited, Irbid, Jordan

Feb 2020 – Aug 2024

B.S., Industrial Engineering

Jordan University of Science and Technology – ABET Accredited, Irbid, Jordan

Sep 2013 – Jan 2018

RELEVANTCOURSEWORK

Aircraft Hardware, Fundamentals of Aerodynamics, Maintenance Procedures and Abnormal Event in Aviation, Maintenance Practices Workshop, Machine mechanics, Material Science, Occupational Health and Safety Management (OSH), CAD Design (SolidWorks, Creo Parametric), Advanced Manufacturing Process, Special Topics In Manufacturing (3D- Printing), Design of Experiments (DOE), Product Realization, Lean Manufacturing, Six Sigma, Applied Probability & Statistics; Lean Production Systems; Quality Control; Operations Research (1&2).

PROFESSIONAL EXPERIENCE

Lecturer – Aircraft Fundamentals and Basic Aerodynamics

Jordan university of science and technology, Irbid, Jordan

Oct 2026- Present

- Delivered lectures on fundamental principles of aircraft systems, including airframe components, propulsion basics, and flight control systems.
- Taught core aerodynamics concepts such as lift, drag, thrust, stall behavior, and airflow over airfoils in subsonic flight conditions.

Lecturer – Maintenance Procedures and Abnormal Events

Jordan university of science and technology, Irbid, Jordan

Oct 2025- Present

- Delivered lectures on aircraft maintenance procedures, including scheduled and unscheduled maintenance, inspection routines, and standard maintenance practices.
- Covered abnormal and emergency events in aviation, focusing on troubleshooting methodologies, fault isolation, and corrective maintenance actions.

Lecturer- Aircraft Hardware

Jordan university of science and technology, Irbid, Jordan

- Delivered lectures on aircraft hardware systems, including airframe structures, fasteners, fittings, control systems, and landing gear components.
- Explained the design, function, materials, and failure modes of aircraft hardware with emphasis on structural integrity and airworthiness requirements.

Lecturer – Workshop Practices and Safety*Oct 2025- Present***Jordan university of science and technology, Irbid, Jordan**

- Taught specialized courses on Occupational Health and Safety (OHS) with a focus on its application in aeronautical and aviation environments.
- Delivered comprehensive lectures on aviation safety regulations, including ICAO, OSHA, and EASA standards, as well as key topics such as human factors in aviation, hazard identification, risk assessment methodologies, and emergency response planning.

Lecturer - CAD Design (Creo Parametric)*Feb 2025- Present***Jordan university of science and technology, Irbid, Jordan**

- Delivered in-depth instruction on Creo Parametric, focusing on 3D modeling, assembly design, part modeling, surface modeling, and engineering drawings for mechanical and aeronautical components.
- Guided students through the entire design workflow, from conceptual sketches to detailed 3D assemblies and production-ready documentation.
- Integrated reverse engineering and design for manufacturability (DFM) concepts to bridge theoretical CAD knowledge with practical industry application

Research Assistant*Oct 2022- Present***Jordan university of science and technology, Irbid, Jordan****Manufacturing Engineer – Welding Specialization (MIG, MAG, and TIG)**

- Conducting research into MIG, MAG, and TIG welding processes, with a focus on understanding their mechanical and metallurgical properties.
- Investigating material behavior by testing various materials and determining their compatibility with different welding techniques, providing valuable insights for material selection processes.
- Utilizing microscopy and other analytical techniques to perform microstructural analysis of welds, identifying defects and proposing corrective measures to enhance weld quality.

Experimental Materials Researcher of Military Materials Grades (Armox440T, Ramor550)*Oct 2022- Present*

- Conducted a comprehensive study on the wear behavior of military-grade materials, including literature review, material selection, experimental design, and standardized sample preparation.
- Performed wear testing, mechanical characterization, and microstructural analysis to evaluate wear mechanisms and property changes under simulated operational conditions.

Research Analysis, Citation Management, and Administrative Support in Manuscript Preparation*Oct 2022- Present*

- Drafting Manuscripts: Assist in drafting and writing manuscripts for publication, including the introduction, methodology, results, and discussion sections.
- Editing and Proofreading: Edit and proofread manuscripts to ensure clarity, coherence, and grammatical accuracy.
- Formatting: Ensure the manuscript adheres to the publication's formatting guidelines and standards.

Teaching Assistant*Oct 2021- Feb 2023***Jordan university of science and technology, Irbid, Jordan**

- Assist Instructors: Provide support to instructors during lectures and classroom activities.
- Student Assistance: Help students understand course material by answering questions and providing additional explanations.
- Delivered lectures on human factors in industrial environments, focusing on human performance, ergonomics, decision-making, and error prevention in manufacturing and production systems.
- Covered key topics such as workplace design, occupational safety, fatigue management, and human-machine interaction in industrial operations.
- Integrated real industrial case studies to demonstrate the impact of human factors on productivity, safety, quality, and operational efficiency.

Zamzam Plastic Industries*Jun 2018- Sep 2018***Jordan, Irbid, Al Ramtha****Safety Instructions**

- Risk Assessment: Conduct thorough risk assessments to identify potential hazards of plastics material.
- Safety management: Develop and implement comprehensive safety guidelines and protocols for handling, storing, and using these materials.

Quality Control Engineer

- Quality Standards: Establish quality standards and specifications for military-grade materials to ensure consistency and reliability.
- Quality Control Processes: Implement rigorous quality control processes to monitor the production, storage, and distribution of these materials.
- Inspection Procedures: Develop inspection procedures to verify the quality and integrity of materials at various stages of the supply chain.

PUBLICATIONS

- Khrais, Samir, Hadeel Al Hmoud, **Ahmad Abdel Al**, and Tariq Darabseh. "Impact of gas metal arc welding parameters on bead geometry and material distortion of AISI 316L." *Journal of Manufacturing and Materials Processing* 7, no. 4 (2023): 123.
- Khrais, Samir, Awsan Mohammed, **Ahmad Abdel Al**, and Tariq Darabseh. "Effect of TIG welding parameters on 316 L stainless steel joints using taguchi L27 approach." *Materials Research Express* 11, no. 1 (2024): 016512.
- Khrais, Samir, Hadeel Al Hmoud, **Ahmad Abdel Al**, and Tariq Darabseh. "Experimental investigation of the impact of GMAW welding parameters on the mechanical properties of AISI 316L/ER 316L using quaternary shielding gas." *Materials Research Express* 11, no. 4 (2024): 046501.
- Khrais, Samir, Tariq Darabseh, Awsan Mohammed, and **Ahmad Abdel Al**. "Investigating the Effects of H₂ Additions to Helium and Argon Shielding Gases on TIG-Welded AISI 316L Stainless Steel." *Journal of Composites Science* 9, no. 5 (2025): 199.

COMPUTER SKILLS

Engineering Application	Mastercam (CNC), SolidWorks, Creo Parametric, AutoCAD, 3D printing-software, 3D Profilometer: Profilm3D
Statistical Application	Minitab, SAS, Expert choice
General Application	Mendeley, EndNote, LaTeX, MS Office, Visio
Modeling and Simulation	Arena

PROFESSIONAL DEVELOPMENT AND CERTIFICATION

- ISO 9001:2015, Science Carvan Academy for consulting and Training *Jan 2018*
- ICDL Science, Carvan Academy for consulting and Training *Mar 2018*
- 3D Printing, Jordan Rever Foundation *Feb 2022*
- Data Analysis, Jordan Rever Foundation *Sep 2025*