Curriculum Vitae Template for Faculty Members – Department of Civil Engineering

1. Personal Information

Field	Content
Full Name (English)	Dr. Tarek Salem ABDENNAJI
Current Academic Rank	Associate Professor
Department	Civil Engineering
College	College of Engineering
University	Northern Border University
Official Email	Tarek.Abdennaji@nbu.edu.sa
Mobile Number	+966508791320
Nationality	Tunisia

2. Academic Qualifications

Degree	Specialization	Granting University	Country	Year of Graduation
B. Sc. in Civil Engineering	Civil Engineering	Sfax University	**Tunisia**	**2001**
M.Sc. in Civil Engineering	Civil Engineering	Tunis El Manar University	**Tunisia**	**2006**
Ph.D. in Civil Engineering	Civil Engineering	Tunis El Manar University	**Tunisia**	**2021**

3. Professional Experience and Academic Career Progression

Job Title	Employer	Department / College	Date
Teaching Assistant	The Sectoral training center in building and drilling of Gabès	Tunisian Agency for Vocational Training	**2002-20٠٦**
Lecturer	The Sectoral training center in building and drilling of Gabès	Tunisian Agency for Vocational Training	**200٦-201٣**
Lecturer	Northern Border University	Civil Engineering Department/Northern Border University	**2013-2019**
Lecturer	The Private Higher School of Applied Sciences and Technology of Gabès	Gabes University	**2013 - 2019**
Lecturer	The Sectoral training center in building and drilling of Gabès	Tunisian Agency for Vocational Training	**٢٠١٩-٢٠٢١**

Assistant Professor	The Sectoral training center in building and drilling of Gabès	Tunisian Agency for Vocational Training	٢٠٢١-٢٠٢٤
Assistant Professor	The Private Higher School of Applied Sciences and Technology of Gabès	Gabes University	**2021 - 2024**
Assistant Professor	Northern Border University	Civil Engineering Department/Engineering College	**2024 - present**

4. Teaching Experience (Courses Taught)

Course Code	Course Title	Level (Undergraduate / Graduate)	Institution	Years Taught
--	Mechanics of Materials	Undergraduate	The Private Higher School of Applied Sciences and Technology of Gabès	2021-2024
CE 312	Construction Materials	Undergraduate	Engineering College	2026
CE 201	Computer Aided Drawing (CAD)	Undergraduate	Engineering College	2024-2025-2026
2209-261	Drilling & Blasting	Undergraduate	Applied College	2024-2025-2026
2209-253	Surface Mining	Undergraduate	Applied College	2024-2025-2026
2209-242	Rock Mechanics	Undergraduate	Applied College	2026
2209-255	Mining Machinery Technology	Undergraduate	Applied College	2024-2025-2026
1401-491	B.Sc. Project I	Undergraduate	Engineering College	2025-2026
1401-492	B.Sc. Project II	Undergraduate	Engineering College	2025-2026
PRM128 13781	Applied Project in Project management	Undergraduate	Research & Consulting Institute	2026
CE760	Master's Thesis 1	Graduate	Engineering College	2025-2026
CE761	Master's Thesis 2	Graduate	Engineering College	2025-2026

5. Scientific and Research Output

A. Papers Published in Peer-Reviewed Journals

No.	Paper Title	Journal Name	Year of Publication	DOI / Link
1	Urban noise pollution prediction using traffic patterns and AI models in Sahloul Road, Sousse City, Tunisia	APPLIED ACOUSTICS	2026-01-01	10.1016/j.apacoust.2025.111218
2	Batch and Isotherm Adsorption Study for Adsorption of Landfill Leachate Using Coconut Shell Activated Carbon Powder	Water, Air, & Soil Pollution	2026-01-07	https://doi.org/10.1007/s11270-025-09064-x
3	A Study of an Experimental Design Methodology for the Removal of Cadmium from Polluted Wastewater via the Electrocoagulation Process using Solar Energy	Engineering, Technology & Applied Science Research	2025-06-01	https://doi.org/10.48084/etasr.9634
4	Machine Learning-Based Prediction of Occupational Noise Hazards in Surface Iron Ore Mining	Mining, Metallurgy & Exploration	2026-04-06	https://doi.org/10.1007/s42461-026-01494-3
5	GreenMix-pareto: Uncertainty-aware, physics-guided multi-objective optimization of low-carbon concrete mix designs	Ain Shams Engineering Journal	2026-03-01	https://doi.org/10.1016/j.asej.2026.104009
6	Classification of Faults in Transmission Line with Penetration of WDG using ANN	Results in Engineering	2026-01-26	https://doi.org/10.1016/j.rineng.2026.109292
7	Predictive Modeling of Coal Gross Calorific Value Using Conventional and Robust Machine Learning Regression Techniques	Journal of Mining and Environment	2026-01-01	10.22044/jme.2025.14153.2554
8	Stability Optimization and Vibration Control of Auxetic-Core Composite Plates to Enhance Maritime Logistics Economy	International Journal of Structural Stability and Dynamics	2025-12-24	https://doi.org/10.1142/S0219455427501574
9	Modelling and prediction of 3D carreau fluid behaviour using machine learning for Cattaneo Christov Double diffusion with variable conductivity	Case Studies in Thermal Engineering	2025-08-01	https://doi.org/10.1016/j.csite.2025.106302
10	ANFIS approach and thermal performance of solar air heaters integrated with phase change materials and porous foam gradient under mechanical vibrations	Case Studies in Thermal Engineering	2025-08-01	https://doi.org/10.1016/j.csite.2025.106267
11	Predicting compressive and tensile strength of concrete with different sand types using machine learning	Ain Shams Engineering Journal	2025-08-01	https://doi.org/10.1016/j.asej.2025.103474
12	Effects of variable heat rise/fall on MHD Maxwell ternary nanofluid (Copper-Alumina-Titanium Dioxide/Water) flow over a moving needle	Scientific Reports	2025-07-12	https://doi.org/10.1038/s41598-025-10057-3
13	A Systematic and Critical Review of Ensemble, Hybrid, and Stacked Learning Models for Predicting the Compressive Strength of Cement-Based Mortars	Archives of Computational Methods in Engineering	2026-06-06	https://doi.org/10.1007/s11831-026-10662-z
14	Solar-Powered Electrocoagulation for Phosphate-Enriched Industrial Effluents: Removal Performance, Mechanistic Insights, and Cost Reduction	Clean Technologies and Environmental Policy	2026-08-17	https://doi.org/10.1007/s10098-026-03588-4
15	Mechanistic Insights into Organic Acid-Mediated Mitigation of Nickel Toxicity in Maize Grown on Mining-Impacted Soils	BMC Plant Biology	2026-08-11	https://doi.org/10.1186/s12870-026-09732-y
16	Predictive-Uncertainty-Aware Multiobjective Design of Reinforced Concrete Beams Using Surrogate Modeling	Structures	2026-08-05	https://doi.org/10.1016/j.istruc.2026.112741
17	Microwave-Activated Eggshell Biochar Enhances Spinach Growth and Antioxidant Defense by Immobilizing Aluminum under Wastewater Irrigation Conditions	BMC Plant Biology	2026-07-01	https://doi.org/10.1186/s12870-026-09396-8
18	Optimizing slope stability in opencast mines using geometric and geomechanical parameters through a numerical modeling approach	Innovative Infrastructure Solutions	2026-06-22	https://doi.org/10.1007/s41062-026-02799-4
19	Risk classification of hand-arm vibration exposure using machine learning for occupational health protection	Discover Public Health	2026-06-10	https://doi.org/10.1186/s12982-026-02208-2
20	Real-time construction safety monitoring using a drone based deep hybrid attention model	Scientific Reports	2025-12-21	https://doi.org/10.1038/s41598-025-31392-5

21	A unified constitutive model for yielding single-lining tunnel supports with resistance limiters under large deformation	Scientific Reports	2026-06-23	https://doi.org/10.1038/s41598-026-53808-6

B. Conferences and Scientific Symposia

No.	Paper Title	Conference Name	Location	Year of Participation	Type of Participation (Speaker / Poster / Attendance)
1	Water quality assessment and treatment Models at the Tishi Dam half (AJGERIA);	1st International Symposium of Geomaterials, Materials and environment (GEME-2024-1)	Gabes/TUNISIA	2024	Speaker
2	Study of static behavior of a linear assembly of Elementary module of Tensegrity System (Quadruplex)	Second National Seminar Materials, Soil & Structure MS2	Hammanet/TUNISIA	2007	Speaker

6. Supervision of Theses and Dissertations

No.	Student Name	Degree (M.Sc. / Ph.D.)	Thesis Title	Year of Supervision / Defense	Supervision Role (Main / Co-Supervisor)
1	Eng. Fahd Saber	Master thesis	Effect of limestone filler on the mechanical and durability properties of dune sand-based geopolymer concrete	2025-2026	Main supervisor
2	Eng. Majed Saket	Master thesis	Reuse of milled asphalt waste for New asphalt mixes in arar, Northern borders region, ksa	2025-2026	Main supervisor

7. Professional and Engineering Memberships

No.	Association / Body	Membership Type	Year of Joining	Membership No. (if any)
1	**Engineers Syndicate / Local Authority Tunisia**	**Member**	**2001**	**05833081**
2	**"Mawtini" Association, Gabès, Tunisia**	**Member**	**2020**	**05833081**

8. Academic Activities and Committees

No.	Committee / Activity	Role	Period
1	Development and Quality Committee	Member	2025-2026
2	Community Service Committee	Member	2026
٣	Engineering Student Club	President	2026

9. 10. Training Courses and Workshops

No.	Course / Workshop Title	Organizing Body	Year of Attendance	Number of Hours
1	Institutional Accreditation	Accreditation and Quality Unit at Northern Border University	2026	9
٢	Essential skills in building electronic content in Blackboard Ultra	Information Technology Department	2026	5
٣	sustainable and innovative practices in mining and allied industries	ADITYA UNIVERSITY	2026	40 (5 days)

10. Skills and Competencies

Area	Details
Engineering Software	AutoCAD, SAP2000, ETABS, SAFE, Revit Structure, Graitec Arche
Languages	English (Level: A)
Other Skills	Data analysis, technical report writing, project management, Machine Learning

2007 - ١٤٢٨
جامعة الحدود الشمالية
NORTHERN BORDER UNIVERSITY