



Prof. Dr. Tarik CHAFIK

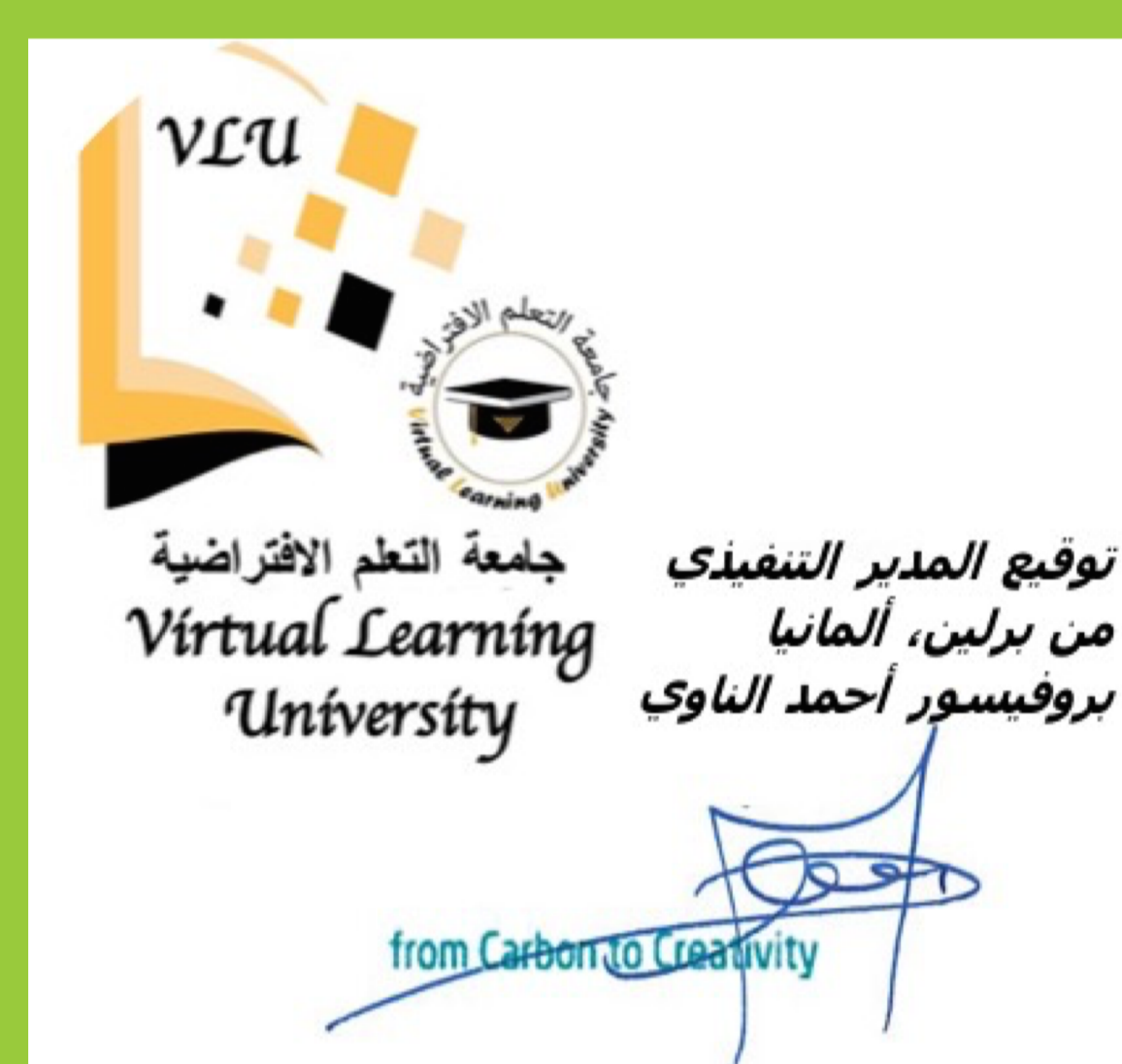
Currently full Professor and Master coordinator at the Faculty of Sciences and Technique of Tangier (Morocco), His teaching covers teaching Thermodynamic, Chemical engineering, Catalysis and atmospheric pollution control. He holds a PhD in catalytic processes engineering from the University of Lyon-France. Prior to joining the "FST-Tanger" works as Post doc researcher at University of Patras (Greece), National Institute for Resources and Environment (AIST, Tsukuba Japan) and the University California Berkeley (USA). He was visiting Professor at Alma Mater University of Bologna, University of Lille, France. His research focused on sustainable development technologies involving adsorbents and catalysts for air pollution control, methanol synthesis from CO₂ and H₂, methane, biogas dry reforming as well as lubricant nanomaterials and porous material for energy storage

Syllabus

Courses description

Weekly Schedule of Course Topics covered and Out of Class

Assignments



Catalysis for energy

Catalysis is crucial for various industrial applications responding to important socioeconomic challenges. Its role is central for sustaining our planet in response to exponential growth of the human population. Hence, there is a need for sourcing diversification of energy and raw materials while reducing waste and overall environmental footprints. Regarding the field of energy, it is crucial to design catalysts to replace noble metals as active phases by more available materials and related implementation in more cost-effective and clean processes. Efficient catalysts are needed for several applications; such as the so-called Power to X processes or water splitting or fuel cells, in addition to related technologies implementation at large scale while involving available feed stocks such as carbon dioxide and hydrogen. These issues will be addressed in this course considering catalyst as a core enabler and catalysis as a phenomenon by covering basic concepts and discussions illustrated through prominent examples. The main objective is to provide the fundamental principles of catalysis and catalyst operating through most significant applications in the field of energy.

Online Classes | courses, tutorial, webinar | # of hours each Months (to be fixed)

Graduate students (Bachelor, Master, PhD)

Upon completion of a course, and once the participation has been verified, the candidate will receive an electronic certificate to download, print, and keep in his records / to be signed by Signed by VLU & Tarek Chafik

Part I - Fundamental concepts of the catalytic act

Part II - Catalyst Design engineering and characterization methods

Part III - Catalysis applications and research topics in the field of energy

Part IV - Actual resource information & published research work

Part V - Team Project Work presentations:

The objective here is to get participants to interact more and will be open to professors and students who are well advanced in their PhD thesis from Moroccan universities and worldwide

Virtual courses / Zoom management by Sabaek for Education & Training (Bahrain)

Principles of Catalyst Development by James T. Richardson.

Plenum Press, New York 1989, ISBN 0-306-43162-9

Fundamentals of chemical reaction engineering. Davis, Mark E. and Davis, Robert J. (2003) McGraw-Hill chemical engineering series,

New York, NY. ISBN 007245007X.

Assigned Reviews articles

Document "on-demand" content from Prof. Chafik Tarek "Online Masterclasses and guidance on projects with learning support"

Send an e-mail to

to receive zoom invitation

Delivery & Duration

Who this programme is for

Certificate of completion

Topics Covered

Media Tools

Textbook(s) and other reading materials

Application Deadline