Asma Mohammed Elsharif

Assistant Professor in Organic Chemistry

Personal Data

Nationality |Saudi Arabia
Department |Chemistry
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Language Proficiency

Language	Read	Write	Speak
Arabic	√	√	√
English	√	√	√
Others	-	-	-

Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
2009	**PhD**	University of Dammam	Dammam
2004	**Master**	College of Science	Dammam
2000	**Bachelor**	College of Science	Dammam

PhD, Master or Fellowship Research Title: (Academic Honors or Distinctions)

PhD	Synthesis and Study of New Corrosion Inhibitors - Based on Imidazolines, Isoxazolidines and some Polymers- for Oil and Gas Industry
Master	Synthesis and Study of Corrosion Inhibiting Activity of Several Isoxazolidine
Fellowship	Carbon nanotube films and their application for energy harvesting, Cranfield University, UK
Fellowship	Full Spectrum Solar Energy Water Splitting for storable Fuel Generation, MIT, Boston High Efficiency Photovoltaic Devices using Nano cavity Array and Photonic Crystal OPV with Al_2O_3 Nano-cylinders, MIT, Boston Gold Nano rods Coated Metallic Photonic Crystal for Enhanced Hot Electron Transfer in Electrochemical Cells, MIT, Boston

Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work	Date
Assistant Professor	College of Science	20/07/2010 – To date
Lecturer	College of Science	04/04/2007
Demonstrator	College of Science	22/09/2002

Executive Education Certificate

#	Program Title	Place and Address	Date of completion
01	MIT Sloan Executive Certificate in Strategy and Innovation	Massachusetts Institute of Technology, MIT Sloan School, US	06/06/2016
02	MIT Sloan Executive Certificate in leadership and management	Massachusetts Institute of Technology, MIT Sloan School, US	05/04/2016
03	Kaufman Teaching Certificate	Massachusetts Institute of Technology, US	17/05/2015
04	Scientific Attachment	Massachusetts Institute of Technology, US	03/09/2016
05	Scientific Attachment	Cranfield University, Bedfordshire, UK	06/08/2013

Administrative Positions Held: (Beginning with the most recent)

Administrative Position	Office	Date
Vice Dean of College of Science	College of Science	23/08/2016 to date

Scientific Achievements

Published Refereed Scientific Researches
(In Chronological Order Beginning with the Most Recent)

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication
01	D. A. Fadeel, G. M. Al-Toukhy, A. M. Elsharif, S. S. Al-Jameel, H. H. Mohamed and T. E. Youssef	Improved photodynamic efficacy of thiophenyl sulfonated zinc phthalocyanine loaded in lipid nano-carriers for hepatocellular carcinoma cancer cells	Photodiagnosis and Photodynamic Therapy. 2018; 23: 25-31
02	S. Nabil, S. N. Abd El-Rahman, S. S. Al-Jameel and A. M. Elsharif	Conversion of Curcumin into Heterocyclic Compounds as Potent Anti-diabetic and Anti-Histamine Agents	Biological and Pharmaceutical Advance Publication. 2018; 41(7): 1071-1077
03	A. M. Z. El-Sharif	The Effect of the Electron Tunneling on the Photoelectric Hot Electrons Generation in Metallic-Semiconductor Nanostructures	Chemical Physics Letter. 2018; 691: 224-230
04	A. M. Z. EL-Sharif	Effect of Organo-Nitrogen Compounds on Inhibition Efficiency of Mild Steel Corrosion in Acidic Media	Asian Journal of Chemistry. 2017; 29(8): 1779-1784
05	X. H. Li, J. B. Chou, W. L. Kwan, A. M. Elsharif, S. G. Kim	Effect of anisotropic electron momentum distribution of surface Plasmon on internal photoemission of a Schottky hot carrier device	Optics Express. 2017; 25(8): A264-A273

06	J. B. Chou, X. H. Li, Y. Wang, D. P. Fenning, A. M. Elfaer, J. Viegas, M. Jouiad, Y. S. Horn, S. G. Kim	Surface Plasmon assisted hot electron collection in wafer-scale metallic-semiconductor photonic	Optics Express. 2016; 24(18): A1234-A1244
07	S. A. Ali, S. A. Haladu, A. M. Z. El-Sharif	Synthesis and application of a cyclopolymer bearing a propylphosphonic acid and a propylcarboxylic acid pendants in the same repeating unit	Journal of Polymer Research. 2016; 23(8): 167
08	S. A. Ali, S. A. Haladu, A. M. Z. El-Sharif	Diallylbis (3-ethoxycarbonylpropyl) ammonium Chloride: A Symmetrically Substituted Monomer for the Synthesis of an Alternate Zwitterionic-Anionic Cyclopolymer	Macromolecular Research. 2016; 24(2): 163-169
09	Shaikh A. Ali, M.T. Saeed, Asma M.Z. El-Sharif	Diallyl-1,12-diaminododecane-Based Cyclopolymers and Their Use as Inhibitors for Mild Steel Corrosion	Polymer Engineering and Science. 2012; 52(12): 2588–2596
10	S. A. Ali, A. M. Z. El-Sharif	A Novel class of bisquaternary ammonium salts in inhibition of mild steel corrosion in HCl and H_2SO_4	Corrosion Engineering, Science and Technology. 2012; 47(4): 265-271
11	S. A. Ali, S. M. J. Zaidi, A. M. Z. El-Sharif and Ali A. Al-Taq	Cyclopolymers from N,N-diallyl-N-propargyl-(12-N′-formylamino)-1-dodecylammonium chloride and their use as inhibitors for mild steel corrosion	Polymer Bulletin. 2012; 69(4): 491-507
12	R. Al-Ghamdi, A. M. Elsharif, M. T. Saeed and S. A. Ali.	The effects of structural variation in some isoxazolidines on the corrosion inhibition of mild steel in 1 N sulfuric acid	Anti-Corrosion Methods and Materials. 2008; 55(5): 270-277
13	S. A. Ali, A. M. Elsharif, H. A. Al-Muallem	Synthesis, viscosity behavior, and interactions with a surfactant of some amphiphilic copolymers of diallyldimethylammonium chloride and diallyldodecyl- or diallyloctadecyl-ammonium chloride	Journal of Applied Polymer Science. 2008; 109(8): 3256 - 3265
14	R. F. Al-Ghamdi, S. A. Ali, A. M. Elsharif	Synthesis and study of corrosion inhibition of isoxazolidines for mild steel in acid medium	Journal of Saudi Chemical Society. 2006; 9(3): 673-682
15	A. M. Elsharif, R. F. Al-Ghamdi and S. A. Ali	Synthesis of hydrophobically modified isoxazolidines for their potential use as corrosion inhibitors	Oriental Journal of Chemistry. 2005; 21(1)
16	S.A. Ali, A. M. Elsharif, R.F. Al-Ghamdi, M.T. Saeed	The isoxazolidines: the effects of steric factor and hydrophobic chain length on the corrosion inhibition of mild steel in acidic medium	Corrosion Science. 2005; 47(11): 2659-2678

Scientific Research Papers Presented to Refereed Specialized Scientific Conferences

#	Name of Investigator(s)	Research Title	Conference and Publication Date
01	A. Elfaer, Y. Wang, X. Li, J. Chou and S. Kim	Gold Nanorods Coated Metallic Photonic Crystal for Enhanced Hot Electron Transfer in Electrochemical Cells	MRS Advances Conference 2016; 1(13):831–837 DOI: 10.1557/adv.2015.46
02	J. B. Chou, D. P. Fenning, Y. Wang, M. A. M. Polanco, J. Hwang and A. El-Faer	Broadband photoelectric hot carrier collection with wafer-scale metallic-semiconductor photonic crystals	42nd IEEE PVSC Conference, New Orleans, LA, USA, 2015. DOI**:** 10.1109/PVSC.2015.7356229

Current Researches

#	Research Title	Name of Investigator(s)
01	Feasibility Study on the SERS-Enabled Rapid Microfluidic Diagnosis for Bacterial Sepsis. Part 1: Broadband and Large Area SERS Substrate and Part 2: Bacterial Isolation.	A. Elsharif and E. Alsuhaimi

Contribution to Scientific Conferences and Symposia

#	Conference Title	Place and Date of the Conference	Extent of Contribution
01	23rd International Conference On Nanomaterials and Nanotechnology	London, UK 15-16 /03/2018	Attended/presented Metallic Semiconductor Photonic Crystal coated with vertical Gold Nanorods for hot Electron Generation
02	Conference on the role of universities in activating Vision 2030	Qassim University, SA 11-12 /01/2017	Attended/presented Development Initiative of academic programs to activate the vision 2030 – IAU sample
03	MRS Fall Meeting	Boston, US 27-02/11-12/2016	Attended/presented Gold Nanorod Coated Metal Semiconductor Interface to Study the Plasmonic Hot Electron Generation
04	The 4th Saudi International nanotechnology conference (SINC 2016), King Fahad University of Petroleum and Minerals	KFUPM, SA 25-27/10/2016	Attended/presented Vertical Gold Nanorods to Study the Plasmonic Hot Electron Generation
05	MTL Annual Research Conference	Bretton Woods, US 20-21/01/2016	Attended/presented Metallic-Semiconductor Photonic Crystals for Solar Water Splitting.

06	MRS Fall Meeting	Boston, US 29-04/11-12/2015	Attended/presented 1- Gold Nanorods Coated Metallic Photonic Crystal for Enhanced Hot Electron Transfer in Electrochemical Cells. 2- Simulation Study of Metallic Photonic Crystal for Enhanced Hot Electron Transfer in Electrochemical Cells.
07	3rd Annual Fall MIT International Design Center poster Session, MIT	Massachusetts, US 28/10/2015	Attended/presented Metallic Semiconductor Photonic Crystal for Solar Water Splitting application
08	MTL Annual Research Conference	Boston - Quincy, US 20/01/2015	Attended
09	Chemindex Conference	Bahrain 02-06/11/2013	Attended/presented Quaternary Ammonium salts having hydrophobic tails as corrosion Inhibitor of mild steel in acidic medium
10	19th International Conference on Organic Synthesis (ICOS 19)	Australia 1-6/07/2012	Attended/presented The effects of structural variation in some derivatives of alkylamines on the corrosion inhibition of mild steel in acidic and saline media
11	Conference of Islam and Peace	UOD 15/04/2012	Attended
12	11th Eurasia Conference on chemical Sciences	Jordan 6-10/10/2010	Attended/presented Synthesis and Corrosion Inhibition Study of Some Amphiphilic Cyclocopolymers of Diallyldimethylammonium Chloride and Diallyldodecyl- or Diallyloctadecyl-ammonium Chloride
13	The 8th International Conference and Exhibition on Chemistry in Industry	Bahrain 18-20/10/2010	Attended
14	Arab Conference on the Developmental and Economic Impacts of Nanotechnology	KFUPM, SA 26-28/03/2010	Attended
15	Forum Saudi techniques to explore and produce oil and natural gas	Riyadh, SA 2008	Attended
16	International Conference on Chemistry and Industry "Future Trends for the Third millennium"	Riyadh, SA 17/12/2001	Attended/presented Synthesis and study of corrosion inhibition activity of iso oxazolidines
17	First Saudi Conference for Science, King Fahad University of Petroleum and Minerals	Dhahran, KFUPM 9-11/04/2001	Attended

18	Women Leadership Forum in University Education	IAU, KFUPM 1-3/03/2018	Attended
19	Q3 Industry GROW Meeting	Saudi Aramco 20/9/2017	Attended
20	Women in The Workforce Forum "Creating Opportunity for Economic Prosperity"	Saudi Aramco 26/4/2017	Attended
21	National Academic Talent Development Program	KAUST 20/4/2017	Attended
22	Q1 Industry Partner Meeting	Saudi Aramco 15/2/2017	Attended
23	SARSI Team Meeting	KAUST 9-10/10/2016	Attended/presented
24	Masdar Institute and MIT Collaborative Research Workshop	Cambridge, US 02/12/2015	Attended
25	Women's Health Symposium	UOD 10-13/4/2010	Attended
26	The second scientific meeting titled "The Product of Scientific Pioneers - Deanship of Scientific Research"	KFU 12-19/5/2009	Attended
27	The first scientific meeting titled "The Product of Scientific Pioneers - Deanship of Scientific Research"	KFU 4/26-5/2/2008	Attended

Workshops

#	The name of the session or workshop	Place and Date of the course
01	Key performance indicators & benchmarking	IAU (30/03/2017)
02	Strategic Plan workshop	IAU (13/12/2016)
03	Center for Clean Water & Clean Energy 2016 Workshop	MIT (01/06/2016)
04	Masdar Institute and MIT Collaborative Research Workshop	MIT (02/12/2015)
05	Workshop on 21st Century Tools for Accelerating Scientific Research	Boston (29/11/2015)
06	Workshop on New Developments in Perovskite Solar Cells Applications	Boston (29/11/2015)
07	Workshop on Applications of Nanowires in Life Sciences and Optoelectronics	Boston (29/11/2015)
08	Workshop Wide-Bandgap Materials for Power Electronics and Solid State Lighting	Boston (29/11/2015)
09	Center for Clean Water & Clean Energy 2015 Workshop	MIT (01/06/2015)
10	Workshop on Advanced Teaching Strategies in Higher Education	IAU (30/04-01/05/2017)
11	Workshop on Managing conflict in the work environment	IAU (17-19/02/2017)
12	Workshop Feedback & Reflection	UOD (22-23/12/2013)
13	Workshop on Higher Order Thinking skill	UOD (18-19/11/2013)
14	Endnote workshop	UOD (07/10/2013)
15	Workshop on Inject your classroom with Google	UOD (02-09/10/2013)
16	Workshop on Effective Methods of Assessment	UOD (28/08/2013)
17	Workshop on Interactive Learning and Student Engagement	UOD (27/08/2013)

18	Workshop on Teaching Skills in the 21th Century	UOD (19-20/02/2013)
19	Workshop on Description and construction of the course	UOD (27/01/2013)
20	Workshop on Teaching & Learning (The Magic of Teaching)	UOD (25-27/09/2012)
21	Workshop Evaluation of academic achievement	UOD (09/03/2012)
22	Workshop on Curriculum design and the outputs of education	UOD (06-07/03/2012)
23	Workshop Excellence Education	UOD (07-08/02/2012)
24	Workshop on Teaching & Learning	UOD (20-22/02/2011)
25	Workshop on IOCD-Chemaxon in Cheminformatics	Jordan (10/10/2010)
26	Workshop on safety in laboratories	Jordan (09/10/2010)
27	First Workshop On Carbon Nanotubes Synthesis, Purification, Characterization and Applications, King Fahad University of Petroleum and Minerals	KFUPM 2009
28	Workshop on Effective English Communication Skills Via Self-Directed Learning	Saudi Aramco (02/07/2008)

Training courses or programs

#	The name of the session or course or program	Place and Date of the course
01	KAUST Saudi Leadership Program	KAUST (24-29/03/2018)
02	Origin Lab	Northampton (28/06/2016)
03	Leadership by Design: Innovation Process and Culture	MIT (24-26/06/2016)
04	Strategy in a Global World	MIT (06-08/06/2016)
05	Managing Across Generations	MIT (24/05/2016)
06	Project Planning and Organization	MIT (16/05/2016)
07	Building, Leading, and Sustaining the Innovative Organization	MIT (14-16/04/2016)
08	Everyday Leadership	MIT (12/04/2016)
09	Performance Development: Manager's Role	MIT (06/04/2016)
10	Tips & Techniques for Time Management	MIT (25/03/2016)
11	Managing Technical Professionals and Organizations	MIT (16-17/03/2016)
12	Unleashing Brain Power for You and Your People	MIT (14-15/03/2016)
13	Active Listening	MIT (08/03/2016)
14	LaTeX/BibTeX & citation management tool	MIT (28/01/2016)
15	ATIC (Assistive Technology)	MIT (28/01/2016)
16	Software Tools for Operations Research	MIT (04-27/01/2016)
17	The Fundamentals of Reservoir Simulation	MIT (04-27/01/2016)
18	The Art and Science of Powerful Presence	MIT (26/01/2016)
19	Get the most from your "omics" analysis: GeneGo MetaCore Software	MIT (26/01/2016)
20	Embrace challenges and learning from them: cultivating a growth mindset	MIT (19/01/2016)
21	Relationship between different types of mindset, learning and achievement	MIT (15/01/2016)
22	Leader, Maverick or Impostor	MIT (13/01/2016)
23	Performance Development, Manger’s Role course	MIT (14/01/2016)
24	Active Listening for Mangers course	MIT (12/01/2016)
25	Assertiveness Workshop for Women	MIT (12/01/2016)
26	How people learn, neuroplasticity, struggling and how it relates to learning	MIT (12/01/2016)

27	Using deliberate practice to improve learning and achievemen	MIT (12/01/2016)
28	Relationship between different types of mindset, learning and achievement	MIT (15/01/2016)
29	Managing Hazardous	MIT (29/12/2015)
30	MTL Safety Quiz	MIT (29/12/2015)
31	COMSOL Training Course	Burlington (28-29/07/2015)
32	Kaufman Teaching Course	MIT (06-15/02-04/2015)
33	Lumerical Simulation	Stanford University, US (24-25/02/2015)
34	Adventures in Scanning Electron Microscopy	MIT (21/01/2015)
35	Numerical simulation with COMSOL Multiphysics	MIT (13-20/01/2015)
36	Introduction to microfluidics and its applications	MIT (05-09/01/2015)
37	Hands on Introduction to Atomistic simulation	MIT (05-09/01/2015)
38	Tips for Engaging Learners	MIT (28/12/2014)
39	Making Training Stick, Autoclave Use and Safety and Writing Effective Job Descriptions	MIT (28/12/2014)
40	Giving Effective Feedback	MIT (11/12/2014)
41	Managing with Situational Leadership	MIT (21/11/2014)
42	Basic Electrical Safety - Lab Personnel	MIT (28/10/2014)
43	Laser Safety	MIT (24/10/2014)
44	Radiation Safety: Laboratory	MIT (15/10/2014)
45	Chemical Hygiene Plan	MIT (29/09/2014)
46	General Biosafety for Researchers	MIT (25/09/2014)
47	Hydrofluoric Acid and Managing Hazardous Waste	MIT (20/09/2014)
48	General Chemical Hygiene	MIT (19/09/2014)
49	Aero/Astro Safety & Chem Hygiene Video and MTL Safety Quiz	MIT (18/09/2014)
50	Applied Nanotechnology and Microsystems & Nanotechnology	Cranfield University, UK (09-13/01/2014)
51	Scientific Work Place	Dhahran, KFUPM (13-16/02/2011)
52	Nanotechnology 1	Cranfield University, UK (10-14/01/2011)

Membership of Scientific and Professional Societies and Organizations

- Saudi Chemical Society
- American Chemical Society
- Australian Chemical Society

Teaching Activities

Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
01	Organic Chemistry (1)	CHEM 162	15 Lectures
02	Organic Chemistry (1)	CHEM 162	12 Labs
03	General Chemistry	CHEM 203	15 Lectures
04	Stereochemistry of Organic Chemistry	CHEM 353	15 Lectures
05	Organic Spectroscopy	CHEM 355	15 Lectures
06	Organic Spectroscopy	CHEM 355	12 Practical
07	Organic Chemistry 2	CHEM 251	15 Lectures
08	Organic Chemistry	CHEM 113	15 Lectures
09	Biochemistry (2)	CHEM 362	12 Practical
10	Safety in Chemistry laboratory	CHEM 202	12 Practical
11	Research Project	CHEM 474	15 Lectures

Brief Description of Undergraduate Courses Taught: (Course Title – Code: Description)

01	Organic Chemistry (1) (Lecture): Introduction to Organic Chemistry – its importance - chemical bonds - study of the molecular structure of organic compounds including chemical bonds – molecular shapes (hybridization). Study the properties of organic compounds such as electronegativity, polarity and solubility - inductive effect - resonance – symmetry - molecular and structural formulas - functional groups in organic compounds and sections of these compounds. Study the fundamental reactions in organic chemistry (substitution - addition - elimination). Study the classification of aliphatic organic compounds: nomenclature (Common name - IUPAC) - structure - physical properties - methods of preparation - reactions and common uses of saturated hydrocarbons (alkanes), unsaturated hydrocarbons (alkenes, alkynes), aliphatic cyclic compounds, alkyl halides alcohols, ethers, epoxides, aldehydes, ketones, esters, acid halides, acid anhydrides, amides, aliphatic amines, sulfur compounds (thioalcohols and thioethers).
02	Organic Chemistry (1) (Practical): The security and safety precautions inside the lab + to identify the technical means solids + crystal technology in use benzoic acid + technology set melting point and boiling solids + grade detection aliphatic acids. Study different reactions and properties of Aromatic acids, Phenols, Amides and Imides, Aromatic amines, Salts Aniline, Ketones and Identify the unknown organic solid or liquid.
03	General Chemistry (Lecture):

	Theoretical content: Introduction to the states of matter: solid, liquid and gaseous state, gas laws, and kinetic theory of gases. This course includes types of solutions, ideal and non-ideal solutions, and colligative properties, chemical and ionic equilibrium. Thermochemistry, energy changes in chemical reactions, acid- base equilibrium, buffer solutions as well. Practical content: The topics covered include some experiments on viscosity of liquids, density of liquids and solids, determining the molar mass of volatile liquids measuring, heat of enthalpies, equilibrium constant, pH, acid base titration, buffer solution and buffer capacity.
04	Stereochemistry of Organic Chemistry (Lecture): Introduction to stereochemistry of organic compounds, Different types of isomerism in organic compounds, symmetry in Organic chemistry and molecular models, optical efficiency and optical isomerism. History of Stereoisomers. Pasteur's discovery isomers at moot in light of organic compounds and relative configuration. Chirality in organic chemistry, stereogenic elements and stereoisomerism, polarimetry, optical activity, stereogenic Elements. Stereoisomerism, R, S conformer (L, D of carbohydrates). Sequential rule of Chan Ingol and Prelog. Compounds containing l pro-chiral centers -and using of chirality in biological activity. Chiral compounds containing more than two chiral center, Racemization, Formation of racemic mixtures, diastereomer, meso diastereomers. Geometric isomerism - spatial selectivity in certain organic reactions and Stereoisomers, conformational isomerism, Ethane, Propane, Butane conformations, structural. Draw the stereo compounds in2D, Newmann and the conformation of alkane and Fisher and Newman projection of stereo compounds. Configurational stereoisomers of Cycloalkanes, Ring conformers, some conformations of cyclohexane Rings and substituted cyclohexane compounds.
05	Organic Spectroscopy (Lecture): Light and electromagnetic radiation - Interaction between light and matter - The law of light absorption- UV-Vis spectroscopy - The nature of electronic excitations – Principle of absorption spectroscopy. The effect of conjugation – The effect of conjugation on alkenes, polyenes - The Woodward-Fieser roles for dienes – Carbonyl compounds, enones. Aromatic compounds: substituted with unshared electrons, substituted capable of π-conjugation, electron releasing and electron withdrawing effects, disubstituted benzene derivatives, polynuclear aromatic hydrocarbons and heterocyclic compounds. IR spectroscopy and molecular mode vibrations - Infrared absorption process - Instrumentation – Sample preparation (solid, liquid and gas). Hooke's law - Characteristic infrared bands of hydrocarbons: alkanes, alkenes, alkynes and aromatic compounds. Characteristic infrared bands of different organic functional groups: alcohols and phenols, ethers, Amines, Alkyl and aryl halides. Carbonyl compounds, Factors influence the cabonyl group, aldelydes, ketones, carboxylic acids, esters, amides, acid chlorides, anhydrides. Nitriles, nitro compounds. Nuclear Magnetic Resonance Spectroscopy: Nuclear spin states -Nuclear magnetic moments -Absorption of energy - The mechanism of absorption (Resonance) - The chemical shift and shielding -NMR Spectrometer-Chemical and magnetic equivalence and non-equivalence. Integrals and integration - chemical environment and chemical shift - local diamagnetic shielding: Electronegativity effect, Hybridization effects, acidic and exchangeable protons, H – bond. Magnetic anisotropy. The origin of spin – spin splitting and coupling, n +1 rule, Pascal triangle. The coupling constants - interpretation of ^{13}NMR spectra. Mass spectrometer - Mass spectrum - Molecular weight determination - Molecular formula from isotope ratio data – Introduction to some fragmentations patterns. Spectroscopic identification of Organic compounds: how to use the synergistic information afforded from the combination of mass, UV, IR and NMR spectra to identify the structure of an organic molecule.
06	Organic Spectroscopy (Practical): Visible Molecular Spectrometry (Colorimetry), Determination of wavelength of maximum absorbance (λ_{Max}) for colored solutions, Study the correlation between the absorbance and

	transmittance, Determining the Concentration with the help of standard curve, Calculation of λ_{max} for dienes, carbonyl compounds and enones using Woodward - Fieser Rules, Identification of different organic functional groups using infrared spectrometer. IR training exercise for a wide range of organic compounds spectra. ^{13}C NMR – ^{1}H NMR training exercise for a wide range of organic compounds spectra. Spectroscopic identification of organic compounds: how to use the synergistic information afforded from the combination of UV, IR, NMR spectra to identify the structure of an organic molecule.
07	Organic Chemistry 2 (Lecture): Benzene and aromatic qualities; Course requirement and introduction on aromatic chemistry, Structure and properties of aromatic compounds, Classification of aromatic compounds, Industrial applications of aromatic compounds, Nomenclature of benzene derivatives, Electrophilic Aromatic Substitution, Mechanisms of electrophilic substitution reactions, Mechanisms of Nitration, sulphonation, Halogenation, Friedel-Crafts Alkylation and Friedel-Crafts Acylations, Reactions of alkyl benzene, Substituent effects in substituted aromatic Rings, Methodes of preparation of Di- and Polysubstituted Benzenes and Theory of Directing Effects (Activating Directors, Deactivating Directors). Aromatic Amines; Structure, Nomenclature, methods of preparation, physicalproperties, Basicity of Arylamines, chemical reactions of amines, Electrophilic substitution of amines, Diazonium salts substitution reaction, diazonium coupling Reactions (preparation, reactions and their applications). Aryl halids; Structure, nomenclature and physical properties, Methods of preparation. Chemical reactions of Aryl halides, reactions of Grignard, nucleophilic substitution. Phenol; Structure, nomenclature, physical properties and acidity, Methods of preparation, industrial methods and chemical reactions of phenol. Aromatic aldehydes and ketones; Nomenclature, physical and chemical properties, Methods of preparation of aldehydes and ketones, Chemical reactions of aromatic aldehydes and ketones. Aromatic acids; Structure, nomenclature, physical and chemical (acidity) properties, Methods of preparation, industrial methods and chemical reactions. Aromatic sulphonic acids; Nomenclature, physical and chemical properties, Methods of preparation and chemical reactions of aromatic sulphonic acids. Poly cyclic aromatic compounds; Structure, nomenclature, physical and chemical (acidity) properties, Methods of preparation, industrial methods and chemical reactions, The uses and the importance of poly cyclic aromatic compounds.
08	Organic Chemistry (Lecture): Study the classification of Alkane and cycloalkane, alkene, alkyne, Aromatic compounds, Alcohol, Ethers, Epoxides, Aldehydes, Ketones, Carboxylic acids and amines: nomenclature (Common name- IUPAC) -structure - physical properties - methods of preparation - reactions and common uses.
09	Biochemistry (2) (Practical): Explanation of milk and Milk components; Proteins, Casein, Milk Enzymes, Milk Lipids, Milk Carbohydrates, f- Milk Vitamins, Quantification of the acidity of milk, Estimate Lactic acid in milk, Quantification of casein in milk and Quantification of the lactose in the milk. Explanation of Urine and Parts of the urinary system; Kidneys, The Ureter, The Bladder, Physical Properties of Urine, Urine Color, Pathogenesis cases, Urine Aspect, Urine Volume, Urine Consistency, Urine PH, Urine SP.G, Urine Odour, Constituents Normal in Urine, Biliuria, Hay's sulpher test, f- Bile pigments and Estimation of chlorine and ammonia in urine. Explanation of Blood and Installation of blood; The origin of blood cells, Blood Functions, Plasma of Blood, The functions of plasma proteins, Serum and Plasma, Types of Anticoagulants, Blood samples storage, Red blood cells, Hemoglobin, Types of Hemoglobin, Natural rates of hemoglobin, White blood cells, Platelets, Blood groups and Estimation of cholesterol, urea and protein in the blood serum.
10	Safety in Chemistry laboratory (Practical):

	Handle chemicals and laboratory equipment safely through understanding the RAMP- principles for safety, recognize hazards, assess the risk of those hazards, minimize, manage, or control those hazards; and prepare to respond to emergencies.
11	Research Project (Research): Steps management of scientific research - the contents of the research - and research procedures - research plan. Hypotheses and questions - previous studies - measures Seat- sources of information - research plan - results and recommendations - references and methods of writing. Electronic databases - Find machines and research methods in the international network. Sources of scientific information and Chemical printed and electronic. Searching and writing a search project.

Graduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
01	Physical Organic	CHEM 528 - 529	15 Lectures

Brief Description of Undergraduate Courses Taught: (Course Title – Code: Description)

01	Physical Organic Course Description: Intermolecular Radical additions to Alkynes, Cascade-Type Radical, Cyclization Reactions Cation Fragmentations, Reactions in organic synthesis. Selectivity in Radical Cation Cycloadditions, the stability of carbon centered radical intermediates. Carbonium ions, Carbanions, Free radical, Methods to identify them. Free energy relationship, Electrophilic and nucleophilic attack. Substitutions, Elimination reactions, Rearrangements and Free radicals. Positive Carbonium ion: stability of ionic carbocations, order of common and non-common carbocations. Negative carbanion: Negative enol ion, formation, their reactions with Electrophiles, Condensation reaction, stereo rearrangements, Michael addition and Robinson addition. Reactions of enols formed halo carbonyl derivatives, acetaldehyde, lithium and magnesium reagents, sulfur ion stabilized by influence of the neighbor carbon atom, organo copper reagents, organo iron reagents.

Supervision of Master and/or PhD thesis
Ongoing Research Supervision

#	Degree Type	Title	Institution	Date
01	Master	Synthesis and Characterization of new derivatives of N-Substituted Phenyl Benzimidazoly-1,3,5-triazine	IAU	To date

Participate as a referee in scientific journals, dissertation, scientific books

#	The name of the journal, dissertation, book
01	Master Dissertation under title "Studies on Synthesis and Characterizations of Starch Base Copolymer

	and its Adjustment for Various Industrial Applications" submitted by Norah Alshahrani, 2018, IAU
02	Master Dissertation under title "Extraction, Characterization and Spectral Determination of Omega Fatty acids from some Fish in Saudi Arabia" submitted by Bushra Al Abdullatif, 2019, IAU

Administrative Responsibilities, Committee and Community Service

(Beginning with the most recent)

Administrative Responsibilities

#	From	To	Position	Organization
01	23/08/2016	To date	Vice Dean of College of Science	Imam Abdulrahman bin Faisal University
02	23/08/2016	To date	Member of College Council	College of Science
03	20/07/2010	To date	Member of Chemistry department Council	College of Science

Committee Membership

#	From	To	Position	Organization
01	18/02/2018	To date	Head of the academic exchange committee	Imam Abdulrahman bin Faisal University
02	01/11/2016	To date	Member of the Strategic Planning committee	College of Science
03	23/10/2017	To date	Member of the Advisory board committee	College of Science
04	22/11/2017	To date	Member of the Administrative Violations Committee	Al Rayyan Complex

Volunteer Work

#	From	To	Type of Volunteer	Organization
01	July 1st 2018	July 21st 2018	Manger Assistant	Summer program for gifted students, collaborate with Mawhiba
02	November 14 2017	November 16 2017	Head of the scientific committee	Mawhiba
03	1/23/2014	1/23/2014	Member	National Olympiad for Scientific Creativity
04	26/06/2007	29/07/2007	Instructor	King Abdulaziz and His Companions Foundation for Giftedness and Creativity

Personal Key Competencies and Skills: (Computer, Information technology, technical, etc.)

01	Characterization software
02	Computer
03	Simulation Programs (Lumerical simulation and COMSOL Multiphysics)

Last Update

10/02/2019