FACULTY FULL NAME: Mohamed Madani

POSITION **Associate Professor**

Personal Data

Nationality | Egyptian

Date of Birth |15- 12- 1968

Department | Physics Department

Official UoD Email |mmadani@iau.edu.sa

Office Phone No. |38630

Language Proficiency

Language	Read	Write	Speak
Arabic	excellent	excellent	excellent
English	excellent	excellent	excellent
Others			

Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
1999	Ph. D. Degree	Faculty of Science, Cairo University, Cairo, Egypt	Cairo University, Gizah, Egypt
1996	M.Sc. Degree	Faculty of Science, Helwan University.	Helwan University, Helwan, Cairo, Egypt
1991	B.Sc. Degree	Faculty of Science, Helwan University.	Helwan University, Helwan, Cairo, Egypt

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

PhD	Some Physical Properties of Radiation Shielding Rubber Composites
Master	Effect of gamma-radiation on the thermal and electrical properties of a polymer
Fellowship	IAEA Fellowship at Leibniz-Institut für Oberflächenmodifizierung e.V. (IOM), Leipzig, Germany, during the period from 5th May., 2003 to 4th Nov. 2003, as an IAEA fellowship, during which, conducted research and development work on - Photopolymerization of acrylates and - UV/ electron beam curing of acrylate nano composite coating.

Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work	Date
Professor	Egyptian Atomic Energy Authority (EAEA)	2010

Associate Prof.	University of Dammam	2009
Ass. Professor	Egyptian Atomic Energy Authority	2005- 2010
Lecturer	Egyptian Atomic Energy Authority	1999- 2005
Assistant Research	Egyptian Atomic Energy Authority	1996- 1999
Demonstrator	Egyptian Atomic Energy Authority	1993- 1996

Administrative Positions Held: (Beginning with the most recent)

Administrative Position	Office	Date
Head of TV network, College of Education, Jubail	38630	2009-
Head of the Department of Radiation Physics Dpt., NCRRT, (EAEA)		Feb. 2009- Mar. 2009

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
1.	M.M.Atta, Eman O. Taha, Usama.F.Kandil, A.M. Abdel Rehee and M. Madani	Nitrogen Plasma synthesis of flexible supercapacitors based on reduced graphene oxide/aloe vera/ carbon nanotubes nanocomposite.	Carbon Letters (2023) accepted
2.	Sheikha A. Alkhursani, Mohamed Mohamady Ghobashy, Dalal Mohamed Alshangiti, Samera Ali Al-Gahtany, Abeer S. Meganid, Norhan Nady, Gamal Abdel Nasser Atia & Mohamed Madani	Plastic waste management and safety disinfection processes for reduced the COVID-19 Hazards	International Journal of Sustainable Engineering (2023) 16:1, 1-14, DOI: 10.1080/19397038.2023.2188396
3.	Mohamed Madani, Shimaa Hosny, Dalal Mohamed Alshangiti, Norhan Nady, Sheikha A Alkhursani, Huda Alkhaldi, Samera Ali Al-Gahtany, Mohamed Mohamady Ghobashy and Ghalia A. Gaber	Green Synthesize of Nanoparticles for Varied Applications: Green renewable resources and energy-efficient synthetic routs	Nanotechnology Reviews, 2022; 11: 731–759

4.	Mohamed Mohamady Ghobashy Dalal Mohamed Alshangiti, Sheikha A. Alkhursani, Samera Ali Al-Gahtany, Abeer S. Meganid, Mohamed Madani, and Ahmad S. Kodous	Aspects of the physiochemical properties of SARS-CoV-2 to prevent S-protein receptor binding using Arabic gum	Green Processing and Synthesis 2022; 11: 150–163
5.	Huda. Alkhaldi, Zinab Alshorafa, Waheedh Albarqi, Manal Alzahrani and Mohammed Madani	Potential effect of UV-irradiation on the optical and anti-microbial properties of PVA/ metal salts nanocomposites	Materials and Technology, 56(1)19-26(2022)
6.	Mohamed Mohamady Ghobashy, Mohamed A. Amin, Norhan Nady, Abeer S. Meganid, Sheikha A. Alkhursani, Dalal Mohamed Alshangiti, Mohamed Madani, Samera Ali Al- Gahtany, Ahmed A. Zaher.	Improving Impact of Poly(Starch/Acrylic Acid) Superabsorbent Hydrogel on Growth and Biochemical Traits of Sunflower Under Drought Stress	Journal of Polymers and the Environment volume 30, pages1973–1983 (2022). doi.org/10.1007/s10924-021-02322-z
7.	Ghalia A. Gaber, Mohamed Mohamady Ghobashy, Mohamed Madani, Dalal Mohamed Alshangiti, Sheikha A. Alkhursani, Samera Ali Al-Gahtany, and Norhan Nady	Study of the corrosion-inhibiting activity of the green materials of the Posidonia oceanica leaves' ethanolic extract based on PVP in corrosive media (1M of HCl)	Green Processing and Synthesis 2021; 10: 555–568
8.	M.M. Atta , A.S. El-Bayoumi, M.Madani , G.M. Nasr and S. Hamza,	Electron Beam Modification on Dielectric, Thermal, and Thermo-mechanical Properties of Styrene Butadiene Rubber/Clay Nanocomposites ,	Arab J. Nucl. Sci. Appl., Vol. 54, 4, 30 -38 (2021).
9.	Mohamed Mohamady Ghobashy, Mohamed Abd Elkodous, Soha Hamdy Shabaka, Sherif A. Younis, Dalal Mohamed Alshangiti, Mohamed Madani, Samera Ali Al-Gahtany, Walid F. Elkhatib, Ayman M. Noreddin, Norhan Nady, and Gharieb S. El-Sayyad	An overview of methods for production and detection of silver nanoparticles, with emphasis on their fate and toxicological effects on human, soil, and aquatic environment	Nanotechnology Reviews 2021; 10: 954–977
10.	Mohamed Mohamady	Controlling radiation	Polymers Advanced Technologies,

	Ghobashy, Basem Kh El-Damhougy, Hamada Abd El-Wahab, Mohamed Madani, Mohamed A. Amin, Abd Elrhaman M. Naser, Farag Abdelhai, Norhan Nady, Abeer S. Meganid, Sheikha A. Alkhursani and Dalal M. Alshangiti	degradation of a CMC solution to optimize the swelling of acrylic acid hydrogel as water and fertilizer carriers	2021;32:514–524
11.	M. Madani, A. S. El-Bayoumi, S. S. Aly, A. Abdeldaym & M. Hammam	Impact of γ-rays on constructional, optical and thermal behavior of alkaline and non alkaline low density polyethylene	Radiation Effects and Defects in Solids, 2020, 175, 765-777. doi.org/10.1080/10420150.2020.1765779
12.	Mohamed Mohamady Ghobashy, Dalal Mohamed Alshangiti, Sheikha A. Alkhursani, Samera Ali Al-Gahtany, Fathiah Salem Shokr, and Mohamed Madani	Improvement in Vitro Dissolution of Poor Water-Soluble Amlodipine Drug by Solid Dispersion with Irradiated Polyvinylpyrrolidone	ACS OMEGA, (2020) 5, 34, 21476- 21487
13.	Dalal Mohamed Alshangiti, Mohamed Mohamady Ghobashy, Sheikha A. Alkhursani, Fathiah Salem Shokr, Samera Ali Al-Gahtany and Mohamed M. Madani	Semi-permeable membrane fabricated from organoclay/PS/EVA irradiated by γ-rays for water purification from dyes	Journal of Materials Research and Technology, 8 (6) (2019) 6134–6145
14.	Samera A. Al-Gahtany, Dalal M. Alshangiti, M. Madani and M. Mohamady Ghobashy	Improving the Thermal Stability of Radiation Degradative PMMA by Blending with PEG	Asian Journal of Chemistry, 32 (7) (2020) 1708- 1712
15.	Sheikha A. Alkhursani, Mohamed Mohamady Ghobashy and Mohamed Madani	Radiation synthesis of organostarch as fluorescence label	Asian Journal of Chemistry, 32 (7) (2020) 1799- 1805
16.	Dalal Mohamed Alshangiti, mohamed mohamady Ghobashy and mohamed madani	Preparation and dielectric property of TiO_2 dobbing with silver dispersed in polyvinyl alcohol with polyurethane (TiO2@Ag/PVA-PU) nanocomposite	Asian Journal of Scientific Researc, 13 (4) (2020) 244-252.

		materials	
17.	Sheikha A. Alkhursani, Mohamed Madani and Mohamed Mohamady Ghobashy	Photocatalytic TiO_2 Embedded on PET-g-PAAc Fabric by Sono-gamma Irradiation Technique	Asian Journal of Chemistry, 32 (2) (2020), 349-353
18.	Mohamed M. Ghobashy, Sheikha A. Alkhursani and Mohamed Madani	Radiation-induced nucleation and pH-controlled nanostructure shape of polyaniline dispersed in DMF	Polymer Bulletin, 75 (2018) 5477–5492
19.	Dalia E. Hegazy, M. Eid and M. Madani	Effect of Ni nano particles on thermal, optical and electrical behaviour of irradiated PVA/AAc films.	Arab Journal of Nuclear Science and Applications, 47(1) (2014) 41- 52.
20.	D M Alshangiti and M. Madani	Nano-Ag doping induced changes in the optical behavior and thermal stability of Acrylic Acid grafted Poly Vinyl Alcohol copolymer films.	Polymer-Plastics Technology and Engineering, 53 (2014) 1385-1391.
21.	A. M. Motawie, M. Madani, E.A. Esmail, A.Z. Dacrorry, H.M. Othman, M.M. Badr and D.E. Abulyazied	Electrophysical characteristics of polyurethane/ organo-bentonite nano composites.	Egyptian Journal of Petroleum (EGYJP), 23 (2014) 379- 387
22.	Motawie, A.M., Madany, M.M., El-Dakrory, A.Z., Osman, H.M., Ismail, E.A., Badr, M.M., El-Komy, D.A., Abulyazied, D.E.	Physico-chemical characteristics of nano-organo bentonite prepared using different organo-modifiers.	Egyptian Journal of Petroleum, 23 (2014) 331-338
23.	M. Madani and D.M. Alshangiti	Effect of silver nano particles on the electrical properties of electron beam irradiated Poly Vinyl Alcohol/ Acrylic Acid copolymer systems.	Journal of Applied Sciences and Research, 9 (10) (2013) 6521-6528.
24.	M. Madani, A. S. El-Bayoumi, S. S. Aly, A. M. Dayem and M. Hammam	Modification of Low Density Polyethylene by Radiation-Induced Grafting. I. Grafting procedure, Chemical Modification of Grafted Films and Electrical Properties.	J of Physics, 1 (2012) 10.

25.	M. Madani	Structure, Optical and Thermal Decomposition Characters of LDPE Graft Copolymers Synthesized by Gamma Irradiation.	Current Appl. Phys., 11 (2011) 70- 76
26.	M. Madani, A. M. Motawie, A. Z. Dacrorry, H. M. Othman; E. A. Esmail; M. Badr, D. E. Abulyazied	The dielectric relaxation of polyurethane/organo-bentonite nanocomposites .	Transactions of the Egyptian Society of Chemical Engineers (TESCE), 37(1) (2011)
27.	M. Madani and R. A. Aly	Monitoring of the physical aging of radiation cross-linked conductive rubber blends containing clay nanofiller.	Materials & Design, 31 (2010) 1444.
28.	M. Madani	Mechanical Properties of Polypropylene Filled with Electron Beam Modified Surface Treated Titanium Dioxide Nanoparticles.	Journal of Reinforced Plastics and Composites, 29 (2010) p. 1999-2014
29.	M. Madani and A.S. El-Bayoumi	Effect of Ionizing Radiation on Physico-mechanical Properties of Surface Treated Mica-Reinforced High-Density Polyethylene.	Journal of Reinforced Plastics and Composites, 29 (2010) p. 1062-1077.
30.	M. Madani	Conducting Carbon Black Filled NR/ IIR Blend Vulcanizates: Assessment of the Dependence of Physical and Mechanical Properties and Electromagnetic Interference Shielding on Variation of Filler Loading.	J of Polymer Research, 17 (2010) 53
31.	M. Madani and A.I. Abd-El Hafez	X-Ray Shielding Ability and Electrophysical Characteristics of Rubber Vulcanizates: Effect of State-of-Mix.	Particle Physics Insights, 3 (2010) 9
32.	M. Madani, S.S. Aly and S.M. El-Sayed	Dielectric Relaxation of New Aniline Methyl Methacrylate Copolymer Synthesized by Gamma Irradiation Initiated polymerization.	High Performance Polymers, 22 (2010) p. 515-533
33.	S.M. El-Sayed, M. Madani and	Analytical Calculations	Physica B, 404 (2009) 4117

	A.S. El-Bayoumi	and Properties of γ - Rays Polymerization of Novel Acrylates Copolymer System.	
34.	S.M. El-Sayed and M. Madani	Effect of Dosage on the Conduction of Electron Beam Cross-Linked Thermoplastic Elastomeric Films from Blend of LDPE and EVA Copolymer.	Materials and Manufacturing Processes, 23 (2008) 163.
35.	M. Madani	Effect of Silica Type and Concentrations on the Physical Properties of EPDM Cured by ?- Irradiation.	Molecular Physics, 106 (2008) 849-857
36.	M. Madani and S.M. El-Sayed	Radiation Effects on Optical investigations of Ethylene Vinyl Acetate Copolymer Films.	J. Macromol. Sci. (B): Physics, 46 (2007) 441
37.	M. Madani, Nabila A. Maziad and Rasha M. Khafagy	Thermally Stimulated Depolarization Current and Thermal Analysis Studies of Gamma Irradiated Lithium-Salt/ Polymer Electrolyte Blends.	J. Macromol. Sci. (B): Physics, 46 (2007) 1191
38.	Rasha M. Khafagy, N. Maziad, M. Madani and Y. A. Badr	Structural, vibrational and thermal characterization of the developed poly(vinyl alcohol)-based solid polymer electrolytes: effect of $LiOH.H_2O$ salt concentration.	Arab J. Nuc. Sci. Appl., accepted 2007
39.	W. Knolle, S. Naumov, M. Madani and C. von Sonntag	Photochemistry of acrylates at 222 nm.	Nuclear Instruments and Methods (B), 236 (2005) p. 195- 202
40.	M. H. Zohdy, M. Madani and M. A. Abd El-Ghaffar	Polymer- Metal Complexes Obtained by Radiation-Induced Grafting Process onto Polyester Fabrics.	J. Mac. Sci., Part (A), 41 (2004) 1321- 42
41.	M. Madani and M. M. Badawy	Influence of Electron Beam Irradiation and Step-Cross-linking Process on Solvent Penetration and Thermal Properties of Natural Rubber Vulcanizates.	Polym. & Polym. Composites, 13 (1) (2005)
42.	M. Madani	Influence of Gamma-	Polym. & Polym. Composites, 12 (3) (2004)

		Radiation on the Electrical Conductance of NR/ IIR Conductive Blend during Swelling in Kerosene	243.
43.	G. M. Nasr and M. Madani	Mechanical Properties of Irradiated Rubber Blends.	Arab J. Nuc. Sci. Appl., 38 (2005) 28.
44.	G. M. Turky, M. Madani, M. H. Abdel-Rehim and A. S. Badran	Preparation, Characterization, and Some Physical Properties of Polypropylene/ Poly(methyl acrylate)-Grafted Glass Wool Composites.	J. Appl. Polym. Sci., 87 (2003) 723
45.	M. Madani, Altaf H. Basta, A. El-Sayed Abdo and Houssni El-Saied	Utilization of Waste Paper in the Manufacture of Natural Rubber Composite for Radiation Shielding.	Progress in Rubber, Plast. & Recycling Technol. 20 (2004) 287
46.	M. Madani	Effect of γ- Irradiation on the Properties of Rubber- Based Conductive Blend Composites.	Polym. & Polym. Composites 17 (2004) 525
47.	S.E. Gwaily, H.H. Hassan, and M. Madani	Lead- Natural Rubber Composites as Gamma Radiation Shields. II: High Concentration.	Polymer Composites, 23:4 (2002) 495
48.	S.E. Gwaily, M.M.Badawy, H. H. Hassan, and M. Madani	Study of electrophysical Characteristics of Lead-Natural Rubber Composites as Radiation Shields.	Polymer Composites, 23:6 (2002) 1068
49.	S.E. Gwaily, M.M. Badawy, H.H. Hassan and M. Madani	Influence of thermal aging on crosslinking density of boron carbide/natural rubber composites.	Polym. Test., 22 (2003) 3
50.	S.E. Gwaily, M.M. Badawy, H.H. Hassan and M. Madani	Naturel rubber composites as thermal neutron radiation shields: II- H3BO3/ NR composites.	Polym. Test., 21: 5 (2002) 513
51.	M.M. Abdel-Aziz, S.E. Gwaily and M. Madani	Thermal and Electrical Behaviour of Radiation Vulcanized EPDM/Al2O3 Composites.	Polym. Degrad.& Stab., 62:3 (1998) 587
52.	S.E. Gwaily, M.M. Abdel-Aziz and M. Madani	Thermal and Electrical Studies on Irradiated Silica Ethylene Propylene	Polym. Test., 17:4 (1998) 265

		Diene Monomer (SiO2/ EPDM) Composites.	

Refereed Scientific Research Papers Accepted for Publication

#	Name of Investigator(s)	Research Title	Journal	Acceptance Date

Scientific Research Papers Presented to Refereed Specialized Scientific Conferences

#	Name of Investigator(s)	Research Title	Conference and Publication Date
	A. Abd El-Hakim, A. S. Badran, M. Madani and H. A. Essawy	The Effect of Surface Treatment of Bentonite and Barium Sulphate on the Crystallization Parameters and Thermal Conductivity of Polypropylene.	7th Arab International Conf. On Polym. Sci. & Technol., October 5- 9/ 2003, Cairo- Hurghada, Egypt, Part (I), p. 719- 731
	W. Knolle, T. Scherzer, S. Naumov and M. Madani	Primary Processes after 222 nm Excitation of Acrylates.	RadTech 2003 Europe.Exhibition & Conf., Berlin, Germany, Nov. 2003, Part (II), p. 597- 601
	H.H.Hassan, S.E.Gwaily, M.M.Badawy, A. Abd-El Hafez, and M.Madani	Natural Rubber Composites as Radiation Shields, II- Fast Neutron Radiation Shields.	4th Radition Physics Conf., November 1998, Alex., Egypt

Completed Research Projects

#	Name of Investigator(s) (Supported by)	Research Title	Report Date
	M. Madani, A.S. El-Bayoumi and S.E.Gwaily	The Use of Radiation Technology in the Development of Polymeric Materials: Conductive Polymer Composites, Nano-Polymers and Nano- Composites.	National Center for Radiation Research and Technology 2006
	M. Madani and D.M. Alshangiti	Synthesis and Characterization of Conducting PVA/ Nano-Metal Composite Films	Funded Research Project (2012-2013)

Current Researches

#	Research Title	Name of Investigator(s)
	Nanometric Scaled Advanced Polymers for Biomedical Applications	M. Madani, D.M. Alshangiti and S.A. Alkhursani

Contribution to Scientific Conferences and Symposia

#	Conference Title	Place and Date of the Conference	Extent of Contribution
	4th Saudi International Conference on Nano	King Fahd University of Petroleum and Minerals - October 2016	Listener

	Technologies		
	Intensive training course entitled: Mentor Training Program	Deanship of University development- University of Dammam- May 2016	Trained
	A workshop entitled: Intended Learning Outcomes (ILOS)	College of Education- Jubail- University of Dammam- April 2016	Listener
	A workshop entitled: Quality assurance and programmatic Calendar	College of Education- Jubail- University of Dammam- March 2016	Listener
	A training course entitled: How to Prepare and write a research paper	College of Education- Jubail- University of Dammam- March 2014.	**Prepare and present the program and Trainer**
	A training course entitled: How to Prepare and write a research paper	College of Education- Jubail- University of Dammam- March 2013.	**Prepare and present the program and Trainer**
	Workshop: Teaching Skills for the 21st Century	University of Dammam- Feb 2013	Listener
	A workshop entitled: programs and courses specifications of National Commission for Assessment and Academic Accreditation.	University of Dammam- May 2012	Listener
	A training course entitled: The development of the skills of faculty members	King Faisal University- May 2009 (Two Weeks)	Trained
	A training course entitled: Materials characterization using advanced techniques and its applications.	Training center-Egyptian Atomic Energy Authority February 2006 2007, 2008 and 2009.	**Prepare and present the program and Trainer**
	A training course entitled: mechanical properties of materials	Training center-Egyptian Atomic Energy Authority, 2008 and 2009.	**Trainer**
	3rd Conference of the Military Technical College	Military Technical College - Ministry of Defense – Egypt, 2008	Listener
	Annual Symposium "The role of research institutions in supporting the peaceful nuclear program of the Egyptian"	Faculty of Engineering- Alexandria University 2007, 2008	Listener
	Workshop of	Egyptian Society of	Listener

	Applications of XRD and XRF in research and industry.	Crystallography, Jan 2007	
	Monitoring environmental radioactivity, EAEA	Middle Eastern Regional Radioisotope Centre for the Arab Countries (MERRCAC) 2006	Trained
	One-day seminar entitled "X-ray diffraction applications."	Training center-Egyptian Atomic Energy Authority, 2005	**Prepare and present the program**
	A training course entitled: radiation processing of polymers for industrial and biomedical applications	Training center-Egyptian Atomic Energy Authority, Nov 2005	**Trainer**
	8th International Conf. on Science and Technology polymers	Egyptian Society of Polymer Science, Nov. 2005	Poster
	9 th International Workshop of Crystallography	Egyptian Society of Crystallography, Nov 2004	Listener
	23th Solid state Phys. Conf.	The Egyptian Society for Materials Science and Applications, Seb. 2003.	Poster
	Training course: Radiation polymerization	Under the supervision of the Arab Atomic Energy Agency (held at Egyptian Atomic Energy Authority, June 2002	**Trainer**
	A training course entitled : "Radiation Processing of Natural Polymers"	Training Center, Egyptian Atomic Energy Authority. under the supervision of the International Atomic Energy Agency- African countries (AFRA) - October 2002	**Trainer**
	6th International Conf. on Science and Technology polymers	Egyptian Society of Polymer Science, Seb. 2001	Poster
	5th International Conf. on Science and Technology polymers	Egyptian Society of Polymer Science, Seb. 1999	Poster
	A training course entitled : "Thermal analysis of materials"	National Center for Radiation Research and Technology, Nov. 1999	**Trainer**
	2nd International Conf. of Biophysics	Faculty of Sci., Cairo University, Dec. 1998	Oral
	4th Radiation Physics Conference	EAEA, Nov. 1998	Oral
	A training course entitled: X-Ray Diffraction.	Cairo University, Mar 1997 (Two Weeks)	Trained
	20th Solid state Phys. Conf.	The Egyptian Society for Materials Science and Applications, Nov. 1997.	Oral

	3rd Radiation Physics Conference	Al-Minea University and EAEA	Listener
	1st Conference of Math. and Physical Sciences	ministry of Agriculture, Nov. 1995	Listener
	Uses of radioisotopes and prevention of ionizing radiation.	EAEA, May 1994 (4 Weeks)	Trained

Membership of Scientific and Professional Societies and Organizations

- The Egyptian Socity for Materials Science and Applications
- The Egyptian Socity for Science and Technology of Polymers
- Egyptian Society of Crystallography and its applications
- Egyptian Society of Radiological Sciences and Applications
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Teaching Activities

Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
	Solid State Physics	802249	Lectures
	Atomic Physics	802248	Lectures
	Modern Physics	800203	Lectures
	Thermodynamics	**802245**	Lectures
	General Physics 3	800163	Lectures
	Optics	800213	Lectures
	Nuclear Physics	**801520**	Lectures
	General Physics 1		

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

1	Solid State Physics - PHYS 308NR- 802249: **In this course the students recognize the properties of the crystalline solid material such as crystalline structure, thermal and electrical properties. This course will enable them to understand the relation between the internal structure of solids and their physical properties. It possesses the skills of mathematical physics to deduce these properties. It also gives the students the most basic information of solid material which they need to be a successful future teacher. This course is considered as a basically preliminary course for higher education in this field.**
2	**Atomic Physics - PHYS 307 NR- 802248 : The course gives an introduction to modern atomic physics. It starts with atomic models and electron shell of atoms. The main part is devoted to the quantum-mechanical**

	description of one- and many-electron atomic systems, relativistic effects such as electron-spin and the fine-structure, the response of atoms in external electromagnetic fields, Zeeman effect, X-rays production and its spectra.
3	Modern Physics - PHYS 204N- 800203 : **The course provides the study of the special theory of relativity- Michaelson- Morley experiment, Galileo transfers - hypotheses of Einstein's theory - Lorentz/Einstein transfers - phenomena: the contraction length/time delay/mass increase-mass and energy–applications of electromagnetic waves: the phenomenon of the photoelectric effect - interpretation of the phenomenon of black body radiation Compton effect- uncertainty principle for Heisenberg - the basics of quantum mechanics.**
4	Thermodynamics- **PHYS 305NR- 802245: The course introduces students to the knowledge of "heat and thermodynamics" as a discipline science that deals with the physical phenomena related to heat energy and its transportation between objects that are at different temperatures. Temperature and internal energy will be presented and studied with a macroscopic viewpoint. That means to study any change that occurs on the gas by observing the changes in volume pressure and temperature. It can also study and understand the thermal phenomena from a microscopic viewpoint. Students also will be introduced to the laws of thermodynamics that links between heat flow, work and internal energy of the system. A part of this course will be devoted study entropy and thermodynamic functions and applications in real life.**
5	General Physics 3- PHYS 201N- 800163 : **This course interests on the study of oscillations and waves motions. Oscillations motions include Simple Harmonic Motion (SHM), damped oscillations and forced oscillations. The course presents a comparison between SHM and Uniform Circular Motion and explains the concept of energy and its types.** **The wave motions cover the travelling and standing waves in Cord and Air Columns. A particular attention is made to sinusoidal waves and energy propagation.** **The course interests also on the study of sound waves characteristics and Doppler Effect in different applications cases. The course studies and explains also other wave phenomenon such as superposition, interference, resonance and beat.**
6	Optics- PHYS 202N- 800213- **The aim of this course is to study principles and mathematical equations of optics. The covered topics are: the nature of light, some properties of light such as reflection, diffraction and dispersion, the laws of geometric optics such as Huygens's principle and Fermat's principle, image formation by flat mirror and spherical mirrors, images formed by refraction and thin lenses, optical devices such as the camera, the eye, the compound microscope and the telescope.** **The course also touches on some phenomena of light such as interference of light waves, diffraction patterns and polarization, besides to the laser and its applications**
7	Nuclear Physics- **PHYS 404- 801520: This course concerns in studying the fundamental properties of the nucleus and its composition and the nature of nuclear forces , besides to studying the properties of stability and**

	decay of the nucleus and the radioactivity applications. This course also covers the nuclear reactions and focuses on the fusion and fission reactions and their applications through nuclear reactors. The course also provides an introduction to particle physics and describes the role of accelerators and detectors in this field.

Postgraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)

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

1	
2	

Course Coordination

#	Course Title and Code	Coordination	Co-coordination	Undergrad.	Postgrad.	From	to

Guest/Invited Lectures for Undergraduate Students

#	Activity/Course Title and Code	Subject	College and University or Program	Date

Student Academic Supervision and Mentoring

#	Level	Number of Students	From	to

Supervision of Master and/or PhD Thesis

#	Degree Type	Title	Institution	Date
	M.Sc.	Preparation and characterization of some vinyl polymers/ glass wool composites as electrical and heat insulators	Faculty of Science- Helwan University	2000
	Ph.D.	Surface treatment of some inorganic additives to increase their dispersibility in polypropylene	Faculty of Science- Cairo University	2001

	Ph.D.	Vulcanization of EPDM by laser beam or ⍰-irradiation and its effect on the physical properties of carbon black loaded samples	National Institute of Laser- Cairo University	2005
	Ph.D.	Influence of γ– Irradiation on the Physical Properties of Interlinked Rubber Vulcanizates	Faculty of Science- Cairo University	2006
	M.Sc.	Effect of Blend Ratio, Filler Addition and Dynamic Vulcanization on the Physical Properties of Polypropylene/ Nitrile Rubber Blend	Faculty of Science- Cairo University	2009
	Ph.D.	Characterization of ionizing and non-ionizing radiation shielding polymeric blended materials	Faculty of Science- Cairo University	2013
	M.Sc.	Physical and mechanical properties of radiation-modified blends from poly(ethylene-co-vinyl acetate) and polyoyrrol/ carbon nano particles	Faculty of Science- Cairo University	2010
	M.Sc.	Electrical and thermo-mechanical properties of irradiated clay nanoparticle/SBR composite		2011
	Ph.D.	Physical Properties of some Acrylate nano composites	College for Girls- Ain Shams University	2012
	M.Sc.	Modification of LDPE Molecular Structure by Graft Copolymerization Induced by γ-Rays	Faculty of Science- Helwan University	2012

Ongoing Research Supervision

#	Degree Type	Title	Institution	Date

Administrative Responsibilities, Committee and Community Service

(Beginning with the most recent)

Administrative Responsibilities

#	From	To	Position	Organization
	Nov 2016	Nov 2020	Member of the Scientific Council of the University of Dammam	Imam Abdulrahman Bin Faisal University
	Nov 2016	Feb 2021	Member of the	College of Education- Jubail, Imam

			Scientific research Unit of College of Education- Jubail	Abdulrahman Bin Faisal University
	2004	2009	Scientific oversight of the X-ray diffraction lab, central labs, NCRRT	National Center for Radiation Research and Technology
	2006	2009	Scientific supervision of polymers physics laboratory	National Center for Radiation Research and Technology
	2002	2009	A member of the X-ray diffraction lab, central labs, NCRRT	National Center for Radiation Research and Technology

Committee Membership

#	From	To	Position	Organization
	2010	2017	Scientific Research Committee Coordinator	College of Education- Jubail, University of Dammam
	2013	now	the Devices Committee coordinator, Physics Department	College of Education- Jubail, Imam Abdulrahman Bin Faisal University
	2013	2014	Member of the Committee of quality standards,	College of Education- Jubail, University of Dammam
	2012	2017	Member of the Committee to express an opinion and examination of the new devices and techniques	College of Education- Jubail, Imam Abdulrahman Bin Faisal University
	2012	2013	Member of the Commission of radiation survey	College of Education- Jubail, University of Dammam
	2006	2009	Member of the Committee of defected devices, NCRRT	National Center for Radiation Research and Technology
	2006	2008	Membership of the Committee of Graduate Studies, NCRRT	National Center for Radiation Research and Technology

Scientific Consultations

#	From	To	Institute	Full-time or Part-time

Volunteer Work

#	From	To	Type of Volunteer	Organization
	2013	now	Establishment of a research lab., Department of Physics,	College of Education- Jubail, Imam Abdulrahman Bin Faisal University
	2006		Establishment of Polymer Physics lab, Radiation Physics dpt., NCRRT	National Center for Radiation Research and Technology

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

1	Run the research laboratory devices such as (TGA, DSC, DMA, Tensile Testing Machine, UV-Vis, FTIR) and train colleagues to work on it
2	Proficiency in the use of computer and network information and to use the analysis results programs

Last Update

...10../ Oct.../2021