

FULL NAME: Samia Zaki Mohamed Hassan

POSITION: Associate Professor

Personal Data

Nationality | Egyptian

Date of Birth | 19/4/1956

Department | Mathematics

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Office Phone No. | 405

Language Proficiency

Language	Read	Write	Speak
Arabic	Excellent	Excellent	Excellent
English	Excellent	Excellent	Very Good
French	Good	Good	Good

Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
1994	Ph. D.	Mathematics Department, Faculty of Science, Mansoura University, Mansoura	Egypt
1985	M. Sc.	Mathematics Department, Faculty of Science, Mansoura University, Mansoura	Egypt
1978	B. Sc.	Mathematics Department, Faculty of Science, Mansoura University, Mansoura	Egypt

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

Ph. D.	On Certain Problems of Rigid Body Dynamics
Master	The Stability of Certain Motions of Rigid Body about a Fixed Point
Fellowship	

Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work	Date
Associate Professor	Mathematics Department, College of Science and Humanities, Jubail, Imam Abdulrahman Bin Faisal University, (College of Education, Dammam Univ.), Saudi Arabia	16/9/2012
Assistant Professor	Mathematics Department, College of Education, Jubail, Dammam University, Saudi Arabia	16/9/2010-15/9/2012
Assist. Prof.	Math. Dept., College of Education, Jubail, King Faisal Univ., Saudi Arabia	16/9/2009-15/9/2010
Assist. Prof.	Math. Dept., College of Education, Jubail, Ministry of Edu., Saudi Arabia	16/9/2006-15/9/2009
Associate Prof.	Math. Dept., Faculty of Science, Mansoura University, Mansoura, Egypt	31/5/2004
Lecturer	Math. Dept., Faculty of Science, Mansoura University, Mansoura, Egypt	28/1/1994-30/5/2004
Assistant Lecturer	Math. Dept., Faculty Science, Mansoura University, Mansoura, Egypt	5/8/1985-27/1/1994
Demonstrator	Math. Dept., Faculty of Science, Mansoura University, Mansoura, Egypt	2/1/1984-4/8/1985
Demonstrator	Math. Dept., Faculty of Education, Mansoura University, Damietta, Egypt	1/11/1979-1/1/1984

Published Refereed Scientific Researches

(In Chronological Order Beginning with the Most Recent)

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication.
1	Dana Alsaleh , Samia Z. Hassan , R. A. Alomair and Mahmoud A. E. Abdelrahman	Some new chiral and perturbed chiral solitary waves in quantum Hall effect, Journal of Algorithms and Computational Technology , 17, 1–12 https://doi.org/10.1177/17483026231183375	Sage Journals 2023
2	Munerah Almulhem; Samia Z. Hassan ; Alanwood Al-buainain; Mohammed A. Sohal; Mahmoud A. E. Abdelrahman	Characteristics of Solitary Stochastic Structures for Heisenberg Ferromagnetic Spin Chain Equation, Symmetry, 15 (4), 92 https://doi.org/10.3390/sym15040927	Multidisciplinary Digital Publishing Institute (MDPI) 2023
3	R.A. Alomair, S.Z. Hassan , Mahmoud A.E. Abdelrahman, Ali H. Amin & E.K. El-Shewy	New solitary optical solutions for the NLSE with δ -potential through Brownian process, Results in Physics, 40, 105814. https://doi.org/10.1016/j.rinp.2022.105814	Elsevier, 2022
4	Abdelrahman Mahmoud A. E., Hassan S. Z. & Almulhem Munera.	A new structure of optical solitons to the (n+1)-NLSE, Results in Physics, . 37, 105535. https://doi.org/10.1016/j.rinp.2022.105535	Elsevier, 2022
5	Abdelrahman Mahmoud A. E, Hassan S. Z. , Alsaleh D. M. & Alomair R. A.	The new structures of stochastic solutions for the nonlinear Schrödinger's equations., Journal of Low Frequency Noise, Vibration & Active Control, 4(4) 1369–1379, https://doi.org/10.1177/14613484221095280	SAGA, 2022
6	Abdelrahman Mahmoud A. E, Hassan S. Z. , Alomair R. A. & Alsaleh D. M.	The New Wave Structures to the Fractional Ion Sound and Langmuir Waves Equation in Plasma Physics, Fractal Fract., 6(5). 227. https://doi.org/10.3390/fractalfract6050227	MDPI, 2022
7	Alomair R. A., Hassan S. Z. & Abdelrahman Mahmoud A. E.	A new structure of solutions to the coupled nonlinear Maccari's systems in plasma physics, AIMS Mathematics, 7(5). https://doi.org/10.3934/math.2022479	AIMS Press, 2022
8	Abdelrahman Mahmoud A. E., Hassan S. Z. , Alomair R. A & Alsaleh D. M.	Fundamental solutions for the conformable time fractional Phi-4 and space-time fractional simplified MCH equations, AIMS Mathematics, 6(6), 6555–6568. https://doi.org/10.3934/math.2021386	AIMS Press, 2021
9	Inc. Mostufa, Hassan S. Z. , Abdelrahman MAE, Alomair R. A., & Chu Y. M.	Fundamental solutions for the Long– short - wave interaction system, Open Physics, 18(1), 1093–1099, https://doi.org/10.1515/phys-2020-0220	De Gruyter (2020).
10	Abdelrahman Mahmoud A. E., Hassan S. Z. & Inc M.	The coupled nonlinear Schrödinger-type equations, Modern physics letters. B, 4(6). https://doi.org/10.1142/S0217984920500785	World Scientific 2020
11	Hassan S. Z. , Alyamane N. A. & Abdelrahman MAE	A construction of new traveling wave solutions for the 2D Ginzburg-Landau equation, The European Physical Journal Plus, 134(425). https://doi.org/10.1140/epjp/i2019-12811-y	Springer, 2019
12	Hassan S. Z & Abdelrahman MAE	A Riccati-Bernoulli sub-ODE method for some nonlinear evolution equations, Int. J. of Nonlinear Sciences and Numerical Simulations, 20(3-4), https://doi.org/10.1515/ijnsns-2018-0045	De Gruyter, 2019
13	Hassan S. Z. & Abdelrahman MAE	Solitary wave solutions for some nonlinear time fractional partial differential equations, Pramana, J. of Phys., 91(67) https://doi.org/10.1007/s12043-018-1636-8	Springer, 2018
14	Hassan S. Z & Abdelrahman MAE	New exact solutions for the Maccari's system, J. Phys. Math. 9(1) . https://doi.org/10.1007/s12043-018-1636-8	OMICS, Int., 2018

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication
15	Yehia H. M., Hassan S. Z. & Shaheen M. E.	On the orbital stability of the motion of a rigid body in the case of Bobylev-Steklov, Nonlinear Dynamics, 80(3). https://doi.org/10.1007/S11071-015-1934-3	Springer , Netherlands, 2015
16	Youness E. A. Hassan S. Z. & El-Rewaily Y.A.	Quadratic Interpolation For Minimizing Tabulation Function, Journal of Mathematics and Statistics, 4(4), 217-222, https://doi.org/10.3844/jmssp.2008.217.221	Science Publ., 2008
17	Elettreby M. F. & Hassan S. Z.	Dynamical Multi-team Cournot Game, Chaos, Solitons and Fractals, 27(3). http://dx.doi.org/10.1016/j.chaos.2005.04.075	Pergamon 2006
18	Hassan S. Z.	On Delayed Dynamical Duopoly, Applied Math. and Computation, 51(1), https://doi.org/10.1016/S0096-3003(03)00340-0 .	Elsevier, 2004
19	Hassan S. Z. & Yehia H. M.	On the Stability of Motion of a Gyrostat about a Fixed Point under the Action of Non Symmetric Fields: II (IC/2004/114), International Atomic Energy Agency (IAEA), https://inis.iaea.org/search/search.aspx?org_q=RN:36097487	ICTP, 2004
20	Ahmed E., Agiza H. N & Hassan S. Z.	On Modifications of Puu's Dynamical Duopoly, Chaos, Solitons and Fractals, 11(7), https://doi.org/10.1016/j.chaos.2005.10.110	Pergamon, 2000
21	Ahmed E. & Hassan S. Z.	On Diffusion in some and Economic systems, Z. Naturforschung, 55(a), https://doi.org/10.1515/zna-2000-0801	Scholar article, 2014
22	Ahmed E. & Hassan S. Z.	On Controlling Chaos in Cournot-Games with Two and Three Competitors, Nonlinear Dynamics, Psychology, and Life Sciences, 4(2). https://doi.org/10.1023/A:1009528529357	Kluwer Acad. Publ.-Plenum Publ., 2000
23	El-Gohary Awad & Hassan S. Z.	On the Exponential Stability of the Permanent Rotational Motion of a Gyrostat, Mechanics Research Communications, 26(4), 479-488 https://doi.org/10.1016/S0093-6413%2899%2900052-X	Pergamon, 1999
24	Hassan S. Z. , Kharrat B. N. & Yehia H. M.	On the Stability of Motion of a Gyrostat about a Fixed Point under the Action of Non Symmetric Fields. , Eur. J. Mech. A/Solids, 18(2), 313-318, http://dx.doi.org/10.1016/S0997-7538(99)80018-7	Elsevier Masson, 1999
25	Ahmed E., Agiza H. N. & Hassan S. Z.	On Modeling Hepatitis B Transmission using Cellular Automata, J. Stat. Phys., 92, 707–712, https://link.springer.com/article/10.1023/A:1023001007714	Springer Netherlands,1998
26	Yehia H. M. & Hassan S. Z.	On the Stability of Fast Rotations of a rigid body about a Fixed Point, Mansoura Science Bulletin, N. 1.	Mans. Univ. Sci. Bulletin, 1987

Refereed Scientific Research Papers Accepted for Publication

#	Name of Investigator(s)	Research Title	Journal	Acceptance Date
1				

Supervision of Master and/or PhD Thesis

#	Degree Type	Title	Institution	Date
1	Ph. D.	On Certain Problems of Rigid Body Dynamics	College of Science, Dammam Univ., S. A.	Nov. 2013
2	Ph. D.	A Study on Numerical Methods for Solving Generalized Convex Mathematical Programming Problems	College of Science, Dammam Univ., S. A.	Mar. 2011
3	M. SC.	Applied Study of Stability of Linearized Autonomous Dynamical Systems	College of Science , King Faisal Univ., S. A.	Jan. 2009
4	M. SC.	On the Stability of a Periodic Motion of a Rigid Body about a Fixed Point	Faculty of Science Mansoura Univ., Eg.	Aug., 2007
5	M. SC.	Qualitative Study of the Motion of an Integrable Mechanical System and its Certain Perturbations	Faculty of Science Mansoura Univ., Eg.	August. 2005

Scientific Research Papers Presented to Refereed Specialized Scientific Conferences

#	Name of Investigator (s)	Research Title	Conference and Publication Date
1	Yehia H. M. & Hassan S. Z.	On the stability of motion of a gyrostat about a fixed point under the action of non-symmetric fields : II	Autumn College on Plasma Physics ICTP, Trieste (Italy), 5 – 30, Sept 2005,
2	Yehia H. M. & Hassan S. Z.	On the Stability of the Equilibrium Positions of a Charged Particle in a Plane Influenced by a non- Uniform Magnetic Field	Autumn College on Plasma Physics, ICTP ,Trieste (Italy), 5 – 30, Sept 2005
3	Madeleine Pascal, Serguei Stepanov & Samia Hassan	Periodic Motions of a Two Degree of Freedom Oscillator with Elastic Obstacles"	7 th Conference on Dynamical systems theory and applications, Lód, December 8-10, 2003.
4	Yehia H. M. & Hassan S. Z.	Qualitative Investigations of the Plane Motion and Nearly Plane Motion of a Gyrostat about a Fixed Point in a non-Symmetric Field	35 th Science Week, Tishreen Univ., SYRIAN ARAB REPUBLIC, 1995.

Completed Researches

#	Research Title	Name of Investigator(s)
1	The new structures of solutions for the perturbed NLSE via noise sense. (OPEN PHYSICS)	D. M. Alsaleh,, Mahmoud A.E. Abdelrahman & S.Z. Hassan
2	Nonlinear dynamical wave structures to the Chiral and perturbed Chiral NLSEs (Under Review)	D. M. Alsaleh , R. A. Alomair, Samia Hassan, & ,Mahmoud A. E. Abdelrahman
3	The complex behavior and stability of Nash equilibrium of four-competing firms	S. Z. Hassan, N. A. Alyamane, R. A. Alomair & D. M. Alsaleh
4	On certain Precessional motions of a multi-connected rigid body in a liquid	Hassan S. Z.
5	New Integrable Systems with a Quartic Second Integral.	Hassan S. Z.
6	On the Stability of the Equilibrium Positions of a Charged Particle in a Plane Influenced by a non-uniform Magnetic Field	Hassan S. Z.
7	On the stability of motion of a magnetized and electrically charged gyrostat about a fixed point under the action of three non-parallel uniform classical fields	Hassan S. Z. & Alessa R. A.

8	On certain periodic motions of multiply connected rigid body in an Ideal incompressible fluid	Hassan S. Z. & Alessa R.A.
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Completed Research Projects

#	Name of Investigator(s) (Supported by)	Research Title	Report Date

Current Researches

#	Research Title	Name of Investigator (s)
1	On the stability of motion of a rigid body –gyrostat	Hassan S. Z.
2	On certain motions of a multi-connected rigid body in a liquid	Hassan S. Z.
3	New Integrable Systems with a Quartic Second Integral II.	Hassan S. Z.

Ongoing Research Supervision

#	Degree Type	Title	Institution	Date

Contribution to Scientific Conferences and Symposia (Inside K. S. A.)

#	Conference Title	Place and Date of the Conference	Extent of Contribution
1	Saudi conference and presentation of robots	Jubail, 25-27/3/2019	Participant
2	The 1 st Scientific Meeting "School violence between reality and hopes"	Imam Abdulrahman Bin Faisal Univ., 4-5/4/1439 H	
3	The preparatory meeting of the students 6 th scientific conference	Dammam Univ., 11-12/2/1436 H	Coordinator of the axis of scientific researches, Coll. of Edu. (Jubail)
4	The preparatory meeting of the students 5 th scientific conference	Dammam Univ., 11-12/2/1435 H	
5	The preparatory meeting of the students 4 th scientific conference	Dammam Univ., 25-26/3/1434 H	
6	International Exhibition and Conference on Higher Edu.	Rayed, 6-9/6/1434 H	Participant
7	The preparatory meeting of the students 4 th scientific conference	Dammam Univ. 1434/1435 H	Coordinator of the axis of sci. res., Coll. of Edu. (Jubail)
8	The conference of sustainability through the simulation	Fac. of designs, Dammam Univ., 2-3/1/2013	Participant
9	The numerical analysis and optimization : Theory and Application	Petroleum Univ. 18-21/ 2012	
10	The preparatory meeting of the students 2 nd scientific conference	Dammam Univ. 23-24/1/1432 H	Supervisor of sci. Researches
11	The second scientific meeting	Fac. of Sci. King Faisal Univ., 20/4-2/5/1431 H	Participant
12	The first scientific meeting	Fac. of Sci. King Faisal Univ., 20/4-2/5/1430 H	Participant with an Article

Cont.: Contribution to Scientific Conferences and Symposia (Outside K. S. A.)

#	Conference Title	Place and Date of the Conference	Extent of Contribution
1	Twenty-Eighth Scientific Conference of the Topology and its Applications	Fac. of Sci., Mans. Univ., Mans., Eg., 28-29/7/2015	Participant
2	The International Conference on Mathematical Analysis and its Applications, ICMAA06	Assiut Univ., Assiut, Eg., 2 – 6/1 /2006	

3	Conference on Plasma Physics, Abdus Salam International Centre for Theoretical Physics	Abdus Salam International Centre for Theore. Phys. (ICTP), Trieste (Italy) , 5-30 /9/ 2005	Participation with an article
4	Autumn College on Plasma Physics	ICTP, Trieste (Italy) 5-30 /9/ 2005	
5	Summer School and Conf. on Poisson Geometry	ICTP, Trieste , (Italy), 7-22/7/2005	
6	Advanced School and Conf. on Non-Commutative Geometry	ICTP, Trieste, (Italy), 9-27/8/ 2004	
7	College on Medical Physics	ICTP, Trieste, (Italy), 23-25/9/2004	
8	Summer School and Conf. on Dynamical System.	ICTP, Trieste (Italy), 19/7 –6/8/2004	Participant
9	Summer School and Conf. on Dynamical System.	ICTP, Trieste, (Italy), 1-20/9/2001	
10	The Second Conference of the Women and Scientific Research in the Upper Egypt	Assiut Univ., Egypt, 21 – 23/4/1998.	
11	The First International Conference on Basic Science & Advanced Technology	Assiut Univ., Egypt, 9 – 12/11/1997	
12	The First Conference of the Women and the Scientific Research in the Upper Egypt	Assiut Univ., Egypt, 31/3 - 1/4/96	Participation (with an article)
13	"Science Week XXXV" Higher Council for Sci.	Tishreen Univ., Dimashq, - Syria. Arab Rep., 4-9 Nov. 1995	
14	Conference "Flags of Damietta"	Mans. Univ., Man., Eg., 15-18/4/1995	

Reviewing the Scientific Researches for Classified Scientific Journals (2018-2023)

- Optical and Quantum Electronics
- Informatics in Medicine Unlocked
- Journal of the Egyptian Mathematical society (JOEMS),
- Journal of Ocean Engineering and Science
- Indian Journal of Physics
- The European Physical Journal Plus
- Computer Modeling in Engineering & Sciences

Membership of Scientific and Professional Societies and Organizations

- Membership of the Scientific Council at Imam Abdul Rahman Bin Faisal University, representing the College of Sciences and Humanities for a period of two years starting from 9/2021.
- A reviewer in the Journal of Egyptian Mathematical Society (JOEMS) ,2018
- The Egyptian Society for Mathematical and Physical Sciences, Cairo University, Egypt.
- Egyptian Mathematical Society
- Egyptian syndicate of Scientific professions
- Regular Associate Member of the " Group Associate ship" of the Abdus Salam International Center for Theoretical Physics ,(ICTP), (2002-2005)

Administrative Responsibilities, Committee and Community Service (Beginning with the most recent)

Administrative Responsibilities

#	From	To	Position	Organization
1	26/1/1428	17/10/1430	Head of a Department	Computer Science Dept. , College of Education, King Faisal Univ.

Committee Membership (Inside K. S. A.)

#	From	To	Position	Organization
1	3/2022	Now	Membership of the training portfolios jury	College of Sci. and Humanities (Jubail)
2	12/2021	Now	Member of the Academic Program Development Unit	
3	9/2021	9/2023	Membership of the Scientific Council , Imam Abdulrahman Bin Faisal University representing the College of Sciences and Humanities for a period of two years,	Scientific Council , Imam Abdulrahman Bin Faisal University
4	10/1442	Now	Member of the Scientific Committee of the Interactive Electronic Courses Project	College of Sci. and Humanities (Jubail))
5	1437/1438	Now	A Member of the Advisory Committee for Math. Programs development	
6	1430/1431	Now	Member of the quality committee and academic accreditation	Math. Dept., College of Edu. (Jubail) , Dammam Univ.
7	1433/1434	Now	Member of the academic guidance committee for the students	
8	1434/1435		Member of the Self- study committee	
9	1430/1431		Coordinator Committees of the sci. research and sci. activity	
10	2013		A decision-maker and a member of judgment's and discussion's committee on the Ph. D. thesis	Math. Dep, College of Sci. , Dammam Univ.
11	2011		Member of judgment's and discussion's committee on the Ph. D. thesis	
12	2009		Member of judgment's and discussion's committee on the master's thesis	Math. Dept., Fac. of Sci., King Faisal Univ.
13	1430/1431		A member of the committee of preparing the total final exam for the Postgraduate students (Ph. D.)	Math. Dept. Fac. of Sci., Dammam Univ.
14	1432	1433	A member of the committee of preparing the applicant's exam for the Demonstrator position	Math. Dept., College of Edu. (Jubail), Dammam Univ.
15	1434	1436	Coordinator of the scientific researches 's axis in the committee of preparatory meeting of the students scientific conferences (4 th - 6 th)	
16	1432	1436	Internal and external examiner of the scientific researches submitted to the preparatory meeting of the students (2 nd , 4 th - 6 th)	
17	1427/1428		Head of the Cultural Committee	Coll. of Edu., Jubail Ministry of Edu., S. A.
18	1427/1428		A member of the committee of the exam preparation for Community Colleges students (Diploma in Computer Sci.)	
19	1427/1428		Head of the examination, monitor for the students grades and equations committees	Computer's Dept. Fac. of Edu., (Jubail), King Faisal Univ.

-Outside K. S. A.

#	From	To	Position	Organization
1	1994	2006	Mmember of the committees: computers examination, establishment and supervision of the computer's laboratories including the networks	

2	1994		Member of the organizing committee and preparation for workshops and scientific conferences	Math. Dept. Fac. of Sci., Mans. Univ., Egypt.
3	1994		A member of the courses development committee of the applied Mathematics	
4	1996 / 1997		Member of the Committee postgraduate and researches	
5	1994	2006	Member of the supervision on the computer labs for students and staff committee's	
6	2005 / 2006	2007/ 2008	A member of judgment's and discussion's committee on the master's thesis.	

Scientific Consultations

#	From	To	Institute	Full-time or Part-time

Volunteer Work--

#	From	To	Type of Volunteer	Organization

Teaching Activities

Undergraduate:

- Courses in the current Statistics Program

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Calculus III	MATH 301	Preparation of the Course Specifications and Course Report files. Teaching all lectures and tutorials of the course (15/15)
2	Mathematical Methods	Math 402	
3	Computational Mathematics	Math 307	
4	Differential Forms and Vector Analysis	Math 405	
5	Partial Differential Equations	, MATH 401	

- Courses in Math program

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Applied mathematics (Applied Mathematics(2))	802700	Preparation of the Course Specifications and Course Report files. Teaching all lectures and tutorials of the course (15/15)
2	Special Functions (Applied mathematics (1))	801509	
3	Transformation Geometry	802699	
4	Analytical Geometry	800222	
5	Mathematical Physics (Physics Dept.)	825478	
6	Calculus III	800128	
7	Differential Equations	800129	
8	Numerical Analysis (Computer's Dept.)	800232	
9	Calculus II (Physics Dept.)	800127	

Courses in the current Statistics Program

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

1	<p>Calculus III, MATH 301</p> <p>The course's subjects: Vectors in 3-dimensional space, parametric equations of lines and planes in space, quadratic surfaces, functions of several variables, limit and continuity of function of several variable, partial derivatives, directional derivatives and gradient, Lagrange multipliers, multiple integral, line integral, Green's theorems.</p>
2	<p>Mathematical Methods, MATH 402</p> <p>The course's subjects: Review of power series solutions for differential equations, Gamma and Beta functions, Hypergeometric Functions, Orthogonal Polynomials (Legendre, Hermite and Lagurre) and their associated functions, Bessel functions.</p>
3	<p>Computational Mathematics MATH 307</p> <p>The course's subjects: Introduction to mathematical programming languages (simulation, programming, computation, and graphing). Solve mathematical problems in calculus, linear algebra and differential equations using computer. Use computational techniques to solve problems arising in the physical, biological, and engineering sciences</p>
4	<p>Differential Forms and Vector Analysis , MATH 405</p> <p>The course's subjects: Multi-variable functions: continuity, differentiability, partial derivatives, Jacobi matrices, chain rule. Inversion theorem and theorem of implicit functions. Vector differential calculus: vector fields, differential operators, orthogonal curvilinear coordinates. Vector analysis and applications: theorems of Green, Gauss and Stokes. Differential forms: degree of differential forms, exact and closed differential forms, exterior differential of differential forms, vector fields and differential forms and integrals of differential forms.</p>
5	<p>Partial Differential Equations , MATH 401</p> <p>Introduction of partial differential equation. First order partial differential equation and its solution. Lagrange method. Characteristics method. Partial differential equation of constant coefficient. Inverse operator methods. Cauchy problem. Classification of linear second order PDEs: Elliptic equation – Hyperbolic equation- Parabolic equation. It's solution by Characteristics method – d'Alembert's formula. Separation of variables in Cartesian coordinates.</p>

- Courses in Math program

1	<p>Applied mathematics- 802700</p> <p>The course's subjects: Partial differential equations (PDF) – PDE in Physical problems – solving linear PDF (1st, 2nd order) - Higher order PDE with constant coefficients (homogenous and non-homogenous) -Solving boundary value problems-Fourier transformation - Green function - Solution of non-homogenous differential equations.</p>
2	<p>Special Functions 801509</p> <p>The course's subjects: General Solution of the Second Order Differential Equations (Frobenius Method) - Some of Special Functions (The Factorial Function - Gamma function - Beta function) -Legendre's Equation -Bessel's Equation-Sturm Liouville system.</p>
3	<p>Transformation Geometry , 802699</p> <p>The course's subjects: Affine transformation, geometric transformations- Line Reflection -Point Reflection-Translation- Rotations- Dilation- Symmetry.</p>
4	<p>Analytical Geometry, 800222</p> <p>The course's subjects: Conic sections and the quadratic equations- Rotation and translation of the coordinate system The coordinate systems in plane and space- The polar equations of the conic sections- Quadratic equation in the space and Quadratic surfaces- Vectors in plane and space- Line in the plane and space.</p>

5	Mathematical Physics, 825478 The course's subjects: Coordinates systems (in the plane- in the space) - Vector analysis (Scaler and vector quantity - Scalar fields – vector fields)-Ordinary differential equations (methods of solving 1 st and 2 nd order linear Diff. Eques.) – Partial differential equations (methods of solving 1 st and 2 nd order) - Fourier series and integrals for functions)- Matrix – Direct Methods for solving system of liner equations.
6	Calculus III, 800128 The course's subjects: Functions of several variables and Partial differentiation- Multiple integrals - Vector functions, Vectors integration
7	Differential Equations, 800129 The course's subjects: Definitions, Solutions methods the 1 st order differential equations- Higher order diff. eques. , Solutions Methods the Higher order Diff. Eques. - Laplace's transformation and its applications- Solving diff. Eques. using Laplace's transformations- Solving diff. Eques. in the neighborhood of an ordinary point.
8	Numerical Analysis, (Computer's Dept.) - 800232 The course's subjects: Assignment Errors –Solutions of equation (Nonlinear) in one variable- Solutions of linear systems- Interpolation and polynomials approximation- Numerical differention and integration – numerical solutions of differential equations
9	Calculus II (Physics Dept.), 800127 The course's subjects: Integration Techniques - Applications of the Definite Integrals -Parametric Equations and Polar Coordinates - Infinite Series.

- Courses in the Previous Planes of study (inside K. S. A.)

#	Course/Rotation Title	No./ Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1-12	Analytical Mechanics, Dynamics, Statics, Mechanics of Deformable Bodies, Mathematical Physics, Computer Mathematics, Vectors and Analytical Geometry, Calculus (1)-(4), Matrix Algebra, Probability Theory, Statistics and Probability, Introduction to Topology,		Preparation of the Course Specifications file. Teaching all lectures (15)

Courses in the Previous Planes of study (Mansoura Univ., Egypt)

#	Course/Rotation Title	No./ Code	Extent of Contribution (no. of lect. / Tutorials. Or labs, Clinics)
1-25	Advanced Mechanics, Analytical M-echanics, Particle and rigid body dynamics, Statics (1), (2), Algebra and Analytical Geometry, Differential equations , Calculus of High Differentiation , Calculus, Fluid Mechanics, Electromagnetic, Theory of elasticity, General relativity, Probability Theory, Statistics and Probability, Introduction to computer science , Microsoft office, Computer application in education, Computer and data security, Computer's system, Programs planning methods, Programing language (BASIC, For Tran, Pascal, HTML), Computer networks (LAN),		Teaching all lectures of the course

Postgraduate (Mansoura Univ., Egypt)

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

Course Coordination

#	Course Title and Code	Coordin ation	Co- coordination	Undergr ad.	Postgrad.	From	to
1	Applied mathematics	✓		✓		1434/1435	1437/1438
2	Special Functions	✓		✓		1433/1434	1437/1438
3	Mathematical Physics	✓		✓		1436/1437	
4	Calculus III	✓		✓		1432/1433	1437/1438
5	Differential Equations	✓	✓	✓		1434/1435	
6	Numerical Analysis	✓	✓	✓		1435/1436	
7	Transformation Geom.	✓		✓		1433/1434	1436/1437
8	Analytical Geometry	✓		✓		1431/1432	1437/1438
9	Calculus II , I	✓		✓		1432/1433	
10 - 17	Mechanics of Deformable Bodies, Analytical Mechanics, Dynamics , Statics, Mathematical Physics, Computer Math., Vectors and Analytical Geometry, Matrix Algebra	✓		✓		1428/1429	1431/1432
18- 20	Probability Theory, Statistics and Probability Introduction to Topology		✓	✓		1429/1430	1430/1431

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

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

- Proficiency in using computer's mathematical Packages (Maple, Mathematica, Mat lap, Reduce, Derive)
- Proficiency in using Programing language (BASIC, FORTRAN) in numerical calculations and operational research
- Proficiency in using Latex, Scientific Work Place, Mikttex, Microsoft Office in writing papers and theses
- Proficiency in dealing with operating systems (MS Dos, Microsoft Windows) and using World Wide Web.
- The ability to teach many courses in computer science. In the faculty of Science and the faculty of specific education, Mansoura University, I taught the courses: Introduction to computer science, Microsoft office, Computer application in education, Computer and data security, Computer mathematics, Computer system, Programs planning methods, Programing language (BASIC, For Tran, Pascal, HTML) and Computer networks (LAN). (1994-2006)
- A member of the committee of the exam preparation for Community Colleges students. (Diploma in Computer Science). I developed the exams for three courses: "Computer mathematic", " Communications and Networking " and Network Management" (1427/1428)
- Preparing and Presenting workshop in "The search's mechanism in scientific researcher website" to staff members (through the scientific research office in the faculty), College of Education in Jubail (1431/143)
- Preparing and presenting workshop in "Academic research skills in the World Wide Web" for students (1435/1436- 1438/1439) through Science club, College of Education in Jubail.
- Preparing and presenting workshop in "Academic research kills through the World Wide Web" to staff members (through the Office of the quality and Academic Accreditation), College of Education in Jubail (1431/1432- 1432/1433)

- Preparing and presenting small workshops in using the mathematical package "Maple and Scientific Work Place" to Mathematics staff members through the two committees: "Scientific activity" and Scientific Research" of Math. Department (1428-1435).
- Preparing and presenting small workshop in using the mathematical package "Maple" to students of the Mathematics department (1428-1437) through the courses: Analytical Geometry, Special Functions, Calculus III, Transformation Geometry, Applied Mathematics, etc.
- Training of employee and some of staff members on using the computer and Microsoft Office
- Participating in the training for faculty members and employees of the college and the university students and employees of some companies on using "DOS, WINDOWS 95, MS OFFICE 2000", Math. Dept. Fac. of Sci. Mans. Univ. Egypt.
- The participation in the Summer School "Multiple Purposes Mathematical Packages" in Math. Dept. Fac. of Sci. Mans. Univ. Egypt " for the staff members in all universities in Egypt with performance and training on using the mathematical packages Maple and Derive (1994).
- Participating in the courses of the ministry of communication for the new graduates of universities, institutes and middle schools with training on using "MS Office 2003" and "Windows 98", Math. Dept. Fac. of Sci. Mans. Univ. Egypt (2002-2005)
- The Participation in workshops of the Mathematics department for employees of some companies, students, employee and staff members of Mansoura University and on using "DOS, WINDOWS 95 , MS OFFICE 2000 " (1996-2002)
- Participating in the summer training for the students in Math. Dept. Fac. of Sci. Mans. Univ. Egypt on using the mathematical packages (1994-2006).

Other:

1. Getting a grant from the Abdu's Salam International Center for Theoretical Physics (ICTP) Trieste, Italy (Regular Associate Member of the "Group Associate Ship" for 9 months during the period from 2001 to 2005).
2. Getting a scientific mission from Mansoura University (Visiting Professor) to EVRY University, France, for six months (September 2002 - March 2003)
3. Getting the "Scientific Encouragement Award" University of Mansoura for the best Ph. D. Thesis in 1994.

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