

Dr. Abdullah Mohammed Abdullah Hussein
B.Sc. (Iraq), M.Sc. (UK), Ph.D. (UK)
Associate Professor

RESUME

1. GENERAL

a. Personal Information

Date of Birth: February 2nd, 1953
Nationality: Jordanian
Marital Status: Married



b. Contacts

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c. Qualifications

Degree	Institution	Date
Ph.D.	Keele University / U.K.	1984
M.Sc.	Dundee University / U.K.	1980
B.Sc.	Al-Mustansiriyah University / Iraq	1976

d. Titles of Theses

M.Sc. Thesis: A Study of Newmark's Method and Some Related Classes of Direct Integration Operators for Structural Dynamics.

Ph.D. Thesis: Inductive Problems in Geomagnetism and Their Numerical Solution for Specific Configurations Involving Buried Anomalies and the Oceans.

e. Employment History

Date	Department	Rank	Organization
1/9/1999 – Present	Computer Science	Assoc. Prof.	Univ. of Sharjah
1/9/1995 – 31/8/1999	Computer Science	Assist. Prof.	Sultan Qaboos Univ.
1/9/1990 – 31/8/1995	Math, Computer, and Statistics		
1/9/1985 – 31/8/1990	Computer Science	Assist. Prof.	Yarmouk University
1/2/1984 – 31/8/1985	Mathematics		

2. TEACHING

a. The following courses were taught at different universities:

Introduction to Personal Computers and Software Packages, Numerical Analysis, Discrete Structures, Cryptography, Internet and WWW, Foundation Mathematics, Calculus, Advanced Calculus, Methods of Differential Calculus, Ordinary Differential Equations.

Advanced Programming, Programming languages like: FORTRAN, C, C++, Java, Java Scripts, HTML, and PHP.

Supervision of a number of final year projects in Computer Science.

b. Graduate Studies

- Supervision of a number of M.Sc. Students.
- Member of the Examining Committee for a number of M.Sc. Students.
- Research Methodology.

c. Teaching Philosophy

Preamble

Teaching and working with students to develop new educational material is something I enjoy very much. My strong mathematical background, teaching and working experience in both fields of mathematics and computer science, make me well-prepared to teach a vast range of courses from both disciplines. I have taught courses related to *Information Technology, Numerical Analysis, Discrete Structures, Cryptography, Internet and Web Programming, Foundation Mathematics, Calculus, Advanced Calculus, Methods of Differential Calculus, Ordinary Differential Equations, Advanced Programming, Programming languages like: FORTRAN, C, C++, Java, Java Scripts, HTML, HTML5, and PHP*. Over the last 29 years, I have dedicated much of my time to teaching and developing courses and educational material. As a result, I have acquired extensive teaching experience at the undergraduate and graduate level both as an instructor and supervisor for several courses at three different universities. Further, I make all my teaching material available electronically to the students to access through the university web.

Course Development

The most interesting, challenging, and rewarding part of a course development is the course materials preparation. Good course material must be interesting, clear, and relevant in order to engage the students, and it must match their ability and background. Course assignments and

labs must also be written in a manner that explains clearly and unambiguously what the students are expected to do, how their answers will be evaluated, and the effect of that on the course outcomes. I usually prepare the assignments to be in line with questions of exams from previous semesters, this way I can be sure that my students visited and seen exams of previous semesters. I consider this as an indirect way to teach the students the basic concepts of the course. All my exams, assignments, labs, and projects together with their solutions were electronically posted on the web, and so every preparation is new and a challenge.

I developed and taught a number of courses including a course on *Internet and the World Wide Web*. This course was an interesting experience for the students at that time because they learned how to author their own web pages and include DHTML and JavaScript in them. The course evolved to include the HTML5, JQuery, and PHP.

I developed a course on cryptography. The course includes an introduction to number theory, secret key and public key encryption techniques. Some related algorithms were included too.

I was asked to teach the first programming course in C++. The course syllabus and contents were well established, but I developed a set of handouts that includes brief explanation and few examples on every topic in C++.

I was also asked to teach the second programming course on Object Oriented Programming. The course syllabus and contents were well established, but I developed a set of handouts that includes brief explanation and few examples on every course subject.

For the last few years I was the faculty coach for the National and Regional Programming Contest. In order to serve the students well, I prepared and taught a course on Programming Challenges for senior students. The course included different programming techniques and methodologies.

In general, I convert the course material prepared as handouts and include simplifying examples, codes, and step-by-step illustrations that guide the students throughout the course.

Self-Development

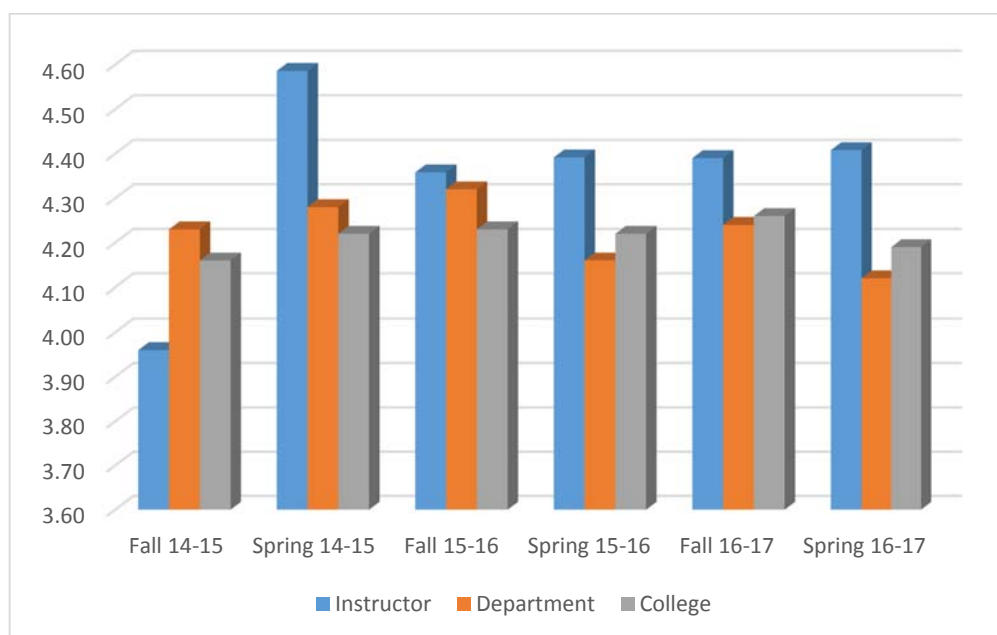
During the last 29 years of teaching and working at different universities, I participated in many workshops on teaching methodologies, outcomes assessment, and measure of achievements. My contribution to the establishment of both the Department of Computer Science at Sultan Qaboos University in Oman and the new Program of Multimedia in the Department of Computer Science at University of Sharjah, was a rich and fulfilling experience. My involvement in the development of a number of tools used for course and program outcomes assessment heavily improved my experience.

d. Teaching Load

My average teaching load during my work at the University of Sharjah is 13 credit hours.

e. Students Course Evaluation

The university conducts student's course evaluation on semester bases to assess the faculty performance in teaching. My average evaluation for the last six semesters over the period 2014 to 2017 during which I taught 32 sections, was 4.34 as compared with 4.24 for the department, and 4.21 for the college. The following figure shows result of my teaching evaluation as compared with the department and college, for the last ten semesters.



f. Course Material on the Blackboard

The following table shows the courses I taught and the materials posted to help the students for the specified number of semesters:

Code	Title	Semesters	Handouts	Assignments	Quizzes	Labs	Exams
1411113	Programming for Engineers	24	√	√	√	√	√
1411116	Programming I	24	√	√	√	√	√
1411211	Programming II	20	√	√		√	√
1411279	Discrete Structures	17		√	√		√
1411341	Web Programming	7	√	√	√		√
1411490	Topics in CS I – Cryptography	1	√	√	√		√
1411490	Topics in CS I – Programming Challenges	1	√	√	√		√

3. ADMINISTRATIVE WORK

Over the last 27 years, I was involved and active in a large number of University Committees at different levels. That gained me an excellent experience in management, and planning. Being the Head of Department at three universities added considerably to that experience. The following is a list of my administrative activities at the university level:

- Head of Department at:
 - Sharjah University:
 - Department of Computer Science (1/9/2006 - 1/9/2008).

- ❑ Sultan Qaboos University:
 - Computer Science Department (1/4/1995 - 9/9/1996).
 - Computer Science Department (24/8/1997 - 30/10/1997).
- ❑ Yarmouk University:
 - Department of Computer Science (1/9/1985 - 1/9/1987).
 - Department of Computer Science (1/9/1988 - 1/9/1990).
- During my work at Yarmouk University, Sultan Qaboos University, and Sharjah University I served on many committees such as: Appointment, Promotion, Curriculum, External Relations, Social, Timetable, Examinations, Peer Evaluation, Library, Students Advising, Industrial Training and Community Services, Research Awards, Strategic Planning, Safety, Grievance, Students Disciplinary, and Housing.
- Served as a College Board member in the above three universities for many years.
- Involved in organizing a number of conferences, and all the UAE National Programming Contest (NPC) from 2001 until 2011.
- I was the organizer of the first Gulf Programming Contest (GPC).
- I am a member of the Steering Committee of the NPC and GPC.
- I worked as a member of the Accreditation Committee for the re-accreditation of Computer Science Program at the University of Sharjah (2010).
- I prepared the initial accreditation document for the Multimedia program.
- I worked as a member of the ad-hoc committee that prepared the re-accreditation document of the University of Sharjah.
- Currently, I chair a committee entrusted with the preparation of a document for the College of Sciences as part of University of Sharjah compliance document for accreditation by the **Southern Association of Colleges and Schools (SACS)** in the USA.
- I participated in workshops for strategic planning.
- I was a member in committees prepared a five years strategic plan on 2008 for the University of Sharjah. Also I was a member of a committee prepared a ten years strategic plan on 1998 for the College of Science at Sultan Qaboos University.
- I participated in workshops for team-based learning.
- I served as a judge for many student projects at school and university levels.
- I served as a judge for Intel Second Science Fair, Arab-World 2011 hosted by Sharjah University.

4. ACADEMIC ACCREDITATION

My strong contribution to the department, college of sciences, and the university was in the process of academic accreditation. I prepared the following:

- Response Document to the Reaccreditation of the B.Sc. Degree in Computer Science.
- Initial Accreditation Document for the IT Multimedia program.
- Member of a Committee Prepared the University of Sharjah Self-Study Document.
- Developed a Software for Course and Program Assessment currently used by faculty in the College of Sciences, College of Arts and Humanities, College of Fine Arts, College of Sharia, and College of Communications.
- Series of Seminars on Using the Assessment Tools.

- Program Effectiveness Section of the Reaccreditation Document for the M.Sc. in Computer Science.
- TaskStream Assessment Tool Committee member.
- Attended a one day workshop on ABET Fundamentals of Program Assessment, given by Dr. Rochelle L. Williams, Director, Professional Development, Research and Meeting Services at ABET Headquarter.

5. RESEARCH

a. Research Interests

- Numerical Analysis
- Robotics
- Optical Switches.

b. Publications

- **A. M. Hussain**, Mahir S. Ali. Quantitative and Qualitative Program Evaluation Instruments. 8th International Forum on Engineering Education IFEE2017, Sharjah, on April 18-20, 2017.
- Mahir S. Ali, **A. M. Hussain**. The Good, the Bad, and the Ugly of Course Outcomes. 8th International Conference on Education, Training and Informatics (ICETI 2017). Orlando, USA, on March 21-24, 2017.
- M. Hussain, M. Al-Mourad, S. Mathew, and **A. Hussain**. Mining Educational Data for Academic Accreditation: Aligning Assessment with Outcomes. Global Journal of Flexible Systems Management. Springer, 2017, Volume 18, Issue 1, pp 51–60.
- **Abdullah Hussein** and Mahir S. Ali, ‘*Assessment Model of Educational Effectiveness*’, 7th International Conference on Education and Educational Technologies (EET '16), April 15 – 17, 2016, Istanbul, Turkey.
- **A.M. Hussein**, “Comparison between two tools of assessment”, The 7th International Forum on Engineering Education IFEE2015, University of Sharjah, 2015.
- **A.M. Hussein**, Ashraf Elnagar1, and Mahir S. Ali, “Measuring Consistency of Assessment Tools in Students’ Achievement of Course Learning Outcomes”, The 7th International Forum on Engineering Education IFEE2015, University of Sharjah.
- Mahir S. Ali, Ashraf Elnagar, **Abdullah Hussein**, “Students’ Prospective on the Need for a General Education Course in Information Technology”, The 7th International Forum on Engineering Education IFEE2015, University of Sharjah.
- **A. M. Hussein** and A.K. Hamid, "*Autonomous Motion Planning in Global Dynamic Environment Using FDTD Method*", The 12th IASTED Int. Conf. ROBOTICS & APPLICATIONS, Honolulu, Hawaii, USA, Aug. 14 – 16, 2006.
- **A.M. Hussein** and A. Elnagar, "A Fast Path Planning Algorithm for Robot Navigation with Limited Visibility", Proceedings of the 2003 IEEE International Conference on Systems, Man & Cybernetics (SMC03), Washington, USA, October 2003.
- A. Elnagar and **A.M. Hussein**, "An Adaptive Motion Prediction Model for Trajectory Planner Systems", Proceedings of the 2003 IEEE International Conference on Robotics and Automation (ICRA03), Taipei, Taiwan, pp. 2442-2447, September 2003.

- **A.M. Hussein** and A. Elnagar, "A Low Cost Path Planar in Unknown Environment for Autonomous Mobile Robot", IEEE International Symposium on Computational Intelligence in Robotics and Automation (CIRA03), Kobe, Japan, July 2003.
- **A.M. Hussein** and A. Elnagar, "Motion Planning Using Maxwell's Equations", Proceedings of the 2002 IEEE/RSJ Int. Conference on Intelligent Robots and Systems EPFL (IROS02), Lausanne, Switzerland, pp. 2347-2352, October 2002.
- Elnagar and **A.M. Hussein**, "On Optimal Constrained Trajectory Planning in 3D Environments", Robotics and Autonomous Systems, Vol. 33, pp. 195-206, (2000).
- **A.M. Hussein**, and Mujib Rahman, "Phase Stability of BCC Transition Metals: Role of d-Electrons ", International Journal of Modern Physics B, Vol. 14, 6, pp. 635-642, (2000).
- **A.M. Hussein** and A. Elnagar, "On Optimal Constrained Trajectory Planning in the Plane", International Journal on Robotics Automation, Vol. 14, Issue 2, (1999). (Based on the conference paper: On Smooth and Safe Trajectory Planning in 2D Environments).
- Y. Zebda, **A.M. Hussein**, and A. Elnagar, "Analysis of the Gain and Rise Time of an Optoelectronic Integrated Device (OEID)", Optics Communications, Vol. 151, pp. 422-430, June (1998).
- A. Elnagar and **A.M. Hussein**, "Acceleration-based Optimal Trajectory Planning in 3D Environments", Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems, Victoria, Canada, Oct. 1998.
- Y. Zebda, A. Elnagar, and **A.M. Hussein**, "Minimization of Base Transit Time in AlGaAs / GaAs Heterostructure Bipolar Transistor (HBT)", IEE Proceeding of Circuits, Devices and Systems, Vol. 144, 6, pp 375-377, December (1997).
- **A.M. Hussein**, and A. Elnagar, "On Smooth and Safe Trajectory Planning in 2D Environments", Proceeding of the 1997 IEEE International Conference on Robotics and Automation (ICRA '97), Albuquerque, New Mexico, pp 3118-3123, April 1997.
- **A.M. Hussein**, "Fourth-Order Approximation of the Fundamental Matrix of a Linear System of Differential Equations", J. Science and Technology, 2, April (1997).
- **A.M. Hussein** and S. El-Seoud, "Fitting the Newmark Method to One Component of a Structural System", International Workshop on the Recent Advances in Applied Mathematics (RAAM '96), pp 251-260, University of Kuwait, May 4-7, 1996.
- **A.M. Hussein**, "An Iterative Linearization of the Non-Linear Inverse Axial Dispersion Model", Int. Comm. Heat Mass Transfer J., Vol. 21, 2, pp 217-225, (1994).
- A.R. Mansour, and **A.M. Hussein**, "An Approximate Analytical Solution for the Non-Linear Inverse Axial Dispersion Model", Int. Comm. Heat Mass Transfer J., Vol. 17, pp 823-830, (1990).
- A.R. Mansour, S.I. Abu Eishah, **A.M. Hussein** and A. Maslat, "An Accurate Numerical Solution of Biospecific Adsorption in a Stirred Bath", Separation Sci. & Tech. J., Vol. 25, No. 3, pp 347-356, (1990).
- M.S. Abu-Salih, M.S. Ali Khan, and **A.M. Hussein**, "Prediction Intervals of Order Statistics for the Mixture of Two Exponential Distributions", Aligarh J. Statistics, Vol. 7, pp 11-22, (1989).
- O.R. Asfar, and **A.M. Hussein**, "Numerical Solution of Linear Two-Point Boundary Problems via the Fundamental-Matrix Method", Int. J. Num. Meth. Eng., Vol. 28, pp 1205-1216, (1989).
- O.R. Asfar, **A.M. Hussein**, and A. Ijjeh, "Application of the Fundamental-Matrix Method for Two-Point Boundary Value Problems to Mode Coupling in a Parallel-Plate Waveguide

Having Multiperiodic Wall Corrugations", IEEE Transactions on Magnetic, Vol. 25, No. 4, pp 2989-2991, (1989).

- A.R. Mansour, M. Sheboul, **A.M. Hussein**, and A. Nusayr, "An Analytical Solution for Diffusion and Reaction in A Laminar Flow Tubular Reactor", Int. Comm. Heat Mass Transfer J., Vol. 16, No. 4, pp 603-608, (1989).
- S. El-Seoud, and **A.M. Hussein**, "Numerical Solution of the Two-Dimensional Non-Linear Magnetic-Field Equation for Ferromagnetics", Submitted and accepted provisionally subject to minor corrections, Journal of Computational Physics.

c. Departmental Seminars

- Numerical Methods and Problem of Stiffness.
- An Iterative Linearization of the Non-Linear Inverse Axial Dispersion Model.
- MATLAB versus FORTRAN in Numerical Analysis.
- Fourth-Order Approximation of the Fundamental Matrix of a Linear System of Differential Equations.
- On Optimal Constrained Trajectory Planning in the Plane.
- Path Planning Using the Magnetic Field.

d. College Approved Research Projects

- High Order Approximations of the Fundamental Matrix of a System of Ordinary Differential Equations, 1/6/1996 - 30/5/1997.
- Optimal Trajectory Planning with Collision Avoidance, 1/9/1997 - 31/8/1998.
- Optimal Motion Planning With Collision Avoidance Using The Electromagnetic Theory, 1/9/2000 - 31/8/2001.

6. REFERENCES

Available upon request.