

# SCIENCE & ENGINEERING ETHICS

FOR THE BENEFIT  
OF HUMANITY

ZURAIDA AHMAD  
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# PREFACE

The International Institute of Islamic Thought was established as an educational trust in 1981 to promote research and publications to aid in the education of the *ummah*. As part of its IOK agenda, the IIIT has consistently called for a critical evaluation of existing disciplines and their methodologies - a call for epistemological reform based on twin sources of knowledge i.e. revelation and the universe. The aim was to re-mould disciplines taught in universities that would project the Islamic worldview in those disciplines for the betterment of the *ummah* and humanity at large.

The late Ismail Raji al-Faruqi, one of the founders of the IIIT in his IOK-Principles and Workplan (1982) talked about the need to develop textbooks that required ‘mastery of both modern knowledge and Islamic heritage’ and based on a critical evaluation of both - to have creative synthesis. More recently another co-founder of the IIIT- the late AbdulHamid Abu Sulayman (who was 2nd Rector of the International Islamic University Malaysia from 1988-1998)- initiated the Textbook/Teaching Materials Project (TMP) that was meant to produce books to be utilised for courses being taught at the IIUM. This was backed up with generous research funding from the IIIT.

Since late 2017, the TMP has been introduced not only in the IIUM, but also in a few other institutions of higher learning. Funds are granted to academics teaching a specific course/s to produce a course-book that would be used as a main reference in a particular course/s. Proposals and manuscripts were reviewed and feedback conveyed to the author. In many ways, these books are still ‘a work in progress’. They are not meant for commercial purposes and have rather limited distribution. The aim is to utilise these materials in class, to receive further feedback from scholars and others and to keep improving these books until they become standard textbooks to be used in the courses taught.

The book that you have in your hands now is a result of these efforts. The IIIT East and SouthEast Asia Office is pleased to contribute to this project to realise the goals of its founders.

We look forward to constructive input for further improvement.

*IIIT East and SouthEast Asia Office  
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**Prof. Ir. Dr. Zuraida Ahmad** is a Professor of Engineering at the Kulliyyah of Engineering, International Islamic University Malaysia (IIUM). She holds a Bachelor of Engineering in Materials Engineering from Universiti Sains Malaysia, a Master of Science from The Victoria University of Manchester, and a Doctor of Philosophy from IIUM, and is a registered Professional Engineer (Ir.) with the Board of Engineers Malaysia. Her academic work spans teaching, curriculum development, and applied engineering research, with expertise in materials and applied engineering, particularly functional and sustainable materials, polymer-based systems, and surface and coating technologies. She supervises undergraduate and postgraduate research, with emphasis on translating engineering research into practical applications that address societal needs. On top of areas in materials engineering Prof Zuraida also taken the responsibility in teaching Engineering Ethics from Islamic Perspectives, Engineering Ethics, Safety and Environment, Integration of Knowledge and Creativity in Islamic Perspective, Islamic Perspective on Technology and Society, and Islamization of Engineering Studies and her interests include values- and Tawhidic-based approaches in engineering education and the holistic development of ethically grounded engineers.



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**Prof. Dr. Dawood Abdulmalek Yahya AL-Hidabi** got his first degree in Physics (BSc&Ed) in 1977), Sanaa University, Yemen. He studied his P.G.C.E in teaching Physics, MEd and PhD (Education) in the UK (1980-1986). He works at Sanaa University (1987-2015). He was the founding president of the University of Science and Technology, Yemen (1994-2007). He published more than 140 papers, supervised more than 150 master and PhD theses and co-authored several textbooks. Currently, he is the editor-in-chief of three academic journals. Al-Hidabi is a member of the advisory boards and reviewer for several national, and international journals in education. Prof.AL-Hidabi, became a professor of education at IIUM, Malaysia in 2016-April 2021. He also works as the Director of the International Institute of Muslim for Muslim Unity. He is also the chairman of the Islamic Agency for Quality Assurance and Accreditation of the Federation of Universities of the Islamic world (FUIW) which is hosted by IIUM. He engaged in consultancy and training for national, and international organizations such as ministries of education and higher education, World Bank, UNESCO, UNICEF, ISESCO, OIC, IIIT and others. His areas of interest are curriculum and instruction, quality and governance, integration of knowledge, strategic planning, higher education leadership and universities' auditing and performance development.

# SCIENCE & ENGINEERING ETHICS

## FOR THE BENEFIT OF HUMANITY

Science and Engineering Ethics for the Benefit of Humanity offers a transformative approach to the moral foundations of science, technology, and engineering through the lens of the Islamic worldview. Bringing together classical principles and contemporary challenges, the book reconnects scientific progress with Tawhidic values, responsibility, and the well being of humanity.

Through four interconnected parts, the book leads readers from foundational understanding to practical application. It begins with the Islamic worldview, exploring Tawhid, stewardship, justice, and the unity of knowledge. These principles form a balanced ethical framework that guides human conduct in a changing world. The discussion then introduces the objectives of Islamic law as a value based system that supports ethical decision making in modern science and technology.

The book also examines the moral and professional responsibilities of engineers, codes of ethics, ethical reasoning, and real case studies. Issues such as corruption, conflict of interest, safety, and environmental care are addressed with clarity and relevance. The final section highlights the broader role of engineering in nation building, sustainability, and economic progress, emphasising leadership and social responsibility as essential qualities for the future.

Designed for students, educators, and professionals, this book serves as a guide for aligning scientific and technological advancement with Islamic ethical values. It calls for a generation of scientists and engineers who combine technical excellence with moral purpose, ensuring that knowledge and innovation remain in the service of justice, compassion, and the benefit of humanity.

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