

Integration of Biotechnology and Islamic Theological Studies in Malaysia

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Abstract: Usuluddin is a branch of Islamic studies debating almost all pertinent issues related to basic beliefs of Muslims (*aqeedah*). This further embodies other main Islamic theological issues such as the divine (*ilahiyat*), prophethood (*nubuwwat*), morality and manners (*akhlaq*) as well as the unseen (*sam'iyat*) i.e. something that we have heard about but beyond human perception. To put this into perspective, the integration of two significant elements i.e. *aqeedah* and *akhlaq* obviously has great consequences particularly in pursuing modern biotechnological researches which should be based on Islamic laws and teachings. The relation between the two is the core to every human's action and is adopted as a point of reference in man's decision making processes. Hence, this paper hopes to highlight and discover the suitability and appropriateness of Islamic Studies courses integrated in biotechnology as offered at a number of Malaysian public universities these days. It is evident from the findings that University of Malaya (UM) offers eleven such courses as compared to Islamic Science University of Malaysia (USIM) as well as UniSZA (University of Sultan Zainal Abidin) with five and three courses respectively. The researchers employed qualitative method which mostly involved content analysis in order to gather related data. This idea suggests that the Usuluddin courses as offered by UM are more flexible in the sense that they provide more opportunities particularly in pursuing biotechnological research and joint research possibilities.

Key words: *Usuluddin* • Islamic theological studies • Modern biotechnology • Malaysia

INTRODUCTION

Islam is indeed a system of life that embodies fundamental spheres of relationship i.e. man's relationship with Allah, with fellow human beings as well as with other living creatures [1]. Thus, for the relationships to be well established, three basic axes of Islamic cores have been emphasized which are faith (*tawheed*), worship (*ibadah*) and morality (*akhlaq*). In fact, these basic principles and cores will balance and maintain one's moral and spiritual values while continuing to strive on the path in which later leads to Allah's pleasure [2]. Meanwhile, according to Ustazi [3], a Muslim shows his devotion to Allah and the religion when he believes in the words of Him as well

as follows the footsteps of the prophets. Hence, based on all these justifications, Islam denotes solid integration of faith, morality and law in one mass.

Islamization of knowledge is an approach which incorporates the principles of educational philosophy of Quranic science into the national education curriculum with the aim to integrate science and theological knowledge [4] to uphold understanding and civilization (*hadarah*) based on Islam. Science is an analysis, synthesis and philosophy of the universe. Meanwhile theology is guidance from God through a strong belief in the world phenomena [5]. Therefore, science and theology, with regard to the Islamic teaching cannot be separated as most of the proofs related to scientific

researches can be found in al-Quran. The aspect of divine science has been integrated into social science and natural science. Both are included in the curriculum as additional subjects which are compulsory to be taken and passed just like Quranic and memorization subjects. Hence, we hope to see future bio-technologist, medical doctor and mechanical engineer who are well-equipped in both aspects of worldly and spiritual knowledge.

A rapid development in biotechnology has raised many issues and debates on the Islamic legislation among Muslim all over the world. The findings of new theories in biotechnology have always caused a dilemma whether they are right or wrong. The dilemma is led by the fact that most of the scientific theories are formed by the western scientists. Many of their scientific findings are merely based on the logical reasoning – let alone the divine knowledge. As a result, some of them are even manipulating the findings by not revealing the actual facts and truth. This unethical issue has been discussed / raised in the International Conference on bio-etiquette held in Beirut [6]. Several suggestions have been highlighted during the conference - to ensure the compatibility between biotechnology and value / moral of human kind - such as:

- A priority must be given to the establishment of a national committee to decide the role of culture in facing the challenges related to biotechnology.
- The need for a consensus to harmonize bio-etiquette with the local and national situations.
- Legislative mechanism and institution are needed to control human greediness in biotechnological industry.
- To develop strategies in creating an awareness related to bio-etiquette, so that one can make a decision based on accurate information.

Thus, the integration between biotechnology and theology seems to be able to solve the problem by inculcating the moral values and Islamic etiquette. Consequently, the truth can be revealed and the research done is aligned with the Islamic principles. Therefore, this study presented to identify the suitability and significance of Islamic Studies (*usuluddin*) courses offered by public universities in Malaysia.

- Discovering the significance of Islamic Studies (*usuluddin*) courses offered by public universities
- Identifying the suitability of Islamic Studies (*usuluddin*) integrated in biotechnology courses as offered by public universities.

Literature Review: *Usuluddin* which is one of the most important disciplines in Islam also refers to *tawheed* (Islamic monotheism) [7]. This brings us to other terminologies postulate of *tawheed* i.e. Islamic theology (*Ilm al-Kalam*), Muslim's basic beliefs (*aqeedah*) and also the great *fiqh* (*fiqh al-akbar*) [8]. Furthermore, [9] lays nine *aqeedah*-related terminologies namely *tawheed* (Islamic monotheism), *usuluddin* (Islamic studies), *as-sunnah* (practices of Muhammad pbuh), *fiqh al-akbar* (the great Fiqh), *ahlsunnah waljamaah* (adherents to the Sunnah), *ahl hadith* (the people of hadith), *salaf* (righteous early Muslims) and *khalaf* (later scholars). *Ilm-kalam* or literally known the science of debate is basically the study of Islamic doctrines and fundamental beliefs (*usuluddin*) which are significant for a Muslim to believe in. This knowledge is complemented by *Ilm-tawheed* particularly when there is a need to establish the basis of the evidence such as in the studies of *Mantiq* (Islamic Logic). According to [10], Islamic logic is about the study of of formal patterns of inference, its validity, relationship between logic and subject matter and so forth. For instance, Al Imam At-Taftazani has given concise and clear definition of *usuluddin* which is corroborated by convincing arguments based on preliminary and fundamental viewpoints namely *aqli* (rational) and *naqli* (transmitted; traditional) [11]. However, all these will only be materialized if the thinking process takes place in human's sound mind assisted by his life experiences. It is indeed, the primary role of this knowledge is to guide mankind to avoid mistakes and errors.

In *usuluddin*, generally the contents comprise issues and fundamental questions of *aqeedah*, religious deeds and Islamic law. Specifically, it provides the foundation for main Islamic theological issues such as the divine (*ilahiyat*) as well as propethood (*nubuwwat*). The former aspect deals with attributes and essence of Allah swt while the latter signifies Muslim's belief in the prophets' revealed books and their miracles (*mu'jizat*). Both aspects i.e. *ilahiyat* and *nubuwwat* are embodied in the six pillars of faith that must be trusted by all Muslims [12, 1]. Besides, [13] has emphasized that the basis of Muslim's faith must be of the integration of all these 6 elements namely; belief in Allah, in the angels, in the revealed books, in the commissioned Messengers, in the resurrection and in the predestination by Allah swt i.e. of all things are by act of destiny (*qada'*) and act of decree (*qadar*). In fact, it is also essential to point out that moral debate usually focuses on two main issues, namely good (*mahmudah*) and evil (*mazmumah*) attributes [1]. This is further supported by [14-16] who have stressed that moral

(*akhlaq*) is the utmost important mechanism in Islam as it is an indicator of Muslim's strong faith (*aqeedah*) and positive outcome of belief in the unity of Allah. [17] noted that argumentative areas of *tawheed* and *aqeedah* encompass four main areas i.e. the divine (*uluhiyyat*), prophethood (*nubuwwat*), unseen (*sam'iyat*) and possible existents (*mumkinat*). On the other hand, [7]) suggested that *tawheed* is further divided into three main divisions namely lordship of Allah (*rububiyyah*), worship of Allah (*uluhiyyah*) and names and attributes of Allah (*al-asma 'wa al-sifat*). First and foremost, the divine (*uluhiyyah*) refers to the oneness of Allah's lordship in which it is the fundamental prerequisite to embrace Islam. In fact, Allah swt is not only the Creator yet He is also the Owner, the Sustainer and the Originator of the heavens and the earth [18]. Apart from that, Allah swt is the centre of Muslims' devotion as He blesses mankind with life, health, wealth and many more [19]. On the other hand, *nubuwwah* and *sam'iyat* denote the concepts of the prophetic or apostolic and unseen things respectively [7]. Not only that, *mumkinat* refers to all contingent beings where Allah swt has the ultimate power to create and control them wherein this is one of the tenets of Islam for Muslims to believe in.

Another area of *tawheed* and *aqeedah* is prophethood (*nubuwwah*) which encompasses fundamental concept of prophets and apostles, duties and responsibilities entrusted to them by Allah swt as well as miracles (*mu'jizat*) as their credentials. Moreover, they were Allah's appointed perfect people with Adam a.s being the first prophet and Muhammad saw as the last where they had been assigned to deliver His message to mankind [14, 20]. Therefore, they were the intermediaries between Allah swt and humanity. For Muslims, the Prophet Muhammad saw is an excellent model that had successfully brought mankind to the path of righteousness. His biggest miracle (*mu'jizat*) was the Qur'an which is the primary source of Islamic teachings and supported by Hadith and Sunnah. [15] points out that it is obligatory for Muslims across the ages to believe in all Allah's prophets equally and without distinction, to believe in the relationship between the apostles and their respective people (*ummah*) and to believe that the Prophet Muhammad saw is the final messenger of Allah swt. Evidently, [21] for instance, stresses that the concepts of miracles (*mu'jizat*) and revelations (*wahyu*) should be discussed in depth and great care should be taken as it is the centrality to prophethood (*nubuwwah*). Meanwhile, the concept of unseen (*sam'iyat*) deals with those beliefs and doctrines which are not possible to analyze without the Islamic primary sources i.e. Quran and

Hadith. Indeed, the doctrines concerning angels and jinns, signs of Hereafter (*qiyamah*), the conditions inside the grave after death (*barzakh*), the Day of Resurrection, the Balance (*mizan*), the Bridge (*sirat*), Heaven and Hell and other details are not supposed to be apprehended with human senses as these matters are beyond human perception [7, 8, 22]. Obviously, this belief in unseen can only be attained with clear unbiased and uncorrupted soul.

In the field of biotechnology, faith is closely related to the question of religious beliefs, ethics and morals [23-25]. This is further supported by [6] that among the humanitarian issues that often become heated debates among scholars and scientists include human cloning, molecular biology and genetic. In the perspective of religion and law, human cloning is considered a threat to human life and it affects family institution as it is apparently a result of an asexual reproduction [26]. Based on the Islamic view of creation, the creation of human embryo is the contribution of male and female cells in the form of sexual relations which are confined to a legal marriage. Hence, descendant lineage or family relationship between the child and his parents is clearly known. On the other hand, if human cloning is successful i.e. human is produced asexually; definitely it will affect his lineage and thus can cause identity confusion. Another negative consequence may also include a marriage that is no longer required as a technological advancement in the contemporary world has sparked new hopes in the minds of most general public specifically among infertile couples or those who lost their children in tragic accidents. Once human population is denied, humaneness will be destroyed as human clones do not have a soul. Due to the implications that cloning holds, Islam takes it as religious as well as moral contravention and thus such technology should not be practiced *et al.* [27] noted that global Islamic scholars proscribe and act against all forms of human cloning and these include Abdul Aziz bin Baz, Said Ramadhan al-Buti, Dr. Wahbah al-Zuhayli, Sheikh Muhammad bin Saleh al-Othimin, Dr. Muhammad Sayyid Tantawi, Dr. Nasr Farid Wasil, Dr. Muhammad Sulaiman al-Ashqar, Syaikh Mukhtar al-Salami, Abd. al-Muhsin al-Turki and Dr. Gamal Serour. In addition, it is worth to know some Islamic organizations and authorities around the world which call for the banning of human cloning such as *Jama'ah Kibar al-Ulama* in Egypt, The Academy of Research of Al-Azhar, European Council for Fatwa and Research, *Majma' Fiqh Islami*, Legislative Council of Islamic Organizations of Islamic Countries Jeddah, Islamic Medical Association of North America as well as Islamic Organization of Medical Sciences in Kuwait. Based on

comparative study of Western and Islamic perspectives of human cloning ethics by [28], it has been established that banned human cloning only involves reproductive cloning yet it will open the door to therapeutic cloning that may benefit mankind and Islamic society in particular. It was decided in the scientific legal seminar held in Jordan, which allows the use of human genetic material in medical research to treat and prevent diseases. This assertion is supported by [29] who pointed out that therapeutic cloning is allowed if the procedure carried out does not contravene Islamic law (*sharia*).

In the West, it has been reported that human cloning has caused various problems and humanitarian issues involving the collapse of the marital relationships, the loss of kinship and lineage, fornication and homosexuality [27, 30] in his work describes four major issues related to bioethics and moral. Firstly, it is very much related to reproduction, birth, life and death. Secondly, it involves the issues of health and biomedical innovation and thirdly, genetic engineering, biosafety and experimentation. Finally, issues linked to biodiversity, Intellectual Property Rights (IPR) and the environment. Furthermore, addressing the issues of Islamic bioethics at hand, [26] has elaborated in great detail some matters related to genetics, reproduction, human cloning and the human genome project (HGP) from various perspectives. In fact, these researchers have produced comprehensive bioethics resources so that biotechnologists, researchers and medical practitioners can ensure that none the Islamic code of bioethics is jeopardized. In addition, euthanasia or commonly known as mercy killing is another pressing issue related to bioethics and moral aspects. The terminology refers to the practice of ending a life painlessly with intention to relieve suffering and pain [31]. Within the religion of Islam, such act to die voluntarily is not recognized as Allah the Creator has the ultimate right to decide how long each of us will live. Muslims believe that human life given and entrusted by Allah swt is sacred and hence, there should not be an attempt to delay or hasten the death particularly by human intervention [32].

Besides, [33] states that many Muslim theologians, scholars and physicians always encounter challenges in biotechnology involving issues related to euthanasia, sex selection as well as organ transplantation from Muslim and non-Muslim perspectives. Two of the main reasons are the first; challenge. The scholars of Islam have limited information about the Western scientific evidence in terms of ethical issues and thus they have started to be aware if the evidence is of significant. Secondly, the Muslim scholars and the West do not have a close

relationship to resolve the issues due to lack of communication between them. Indeed, this has created difficulties to find the best solutions and there have been notable disagreements regarding certain matters. Therefore, nurturing strong faith and positive moral values through Islamic teachings can increase awareness about numerous issues in modern biotechnology and thus find the best solutions in accordance with religion, ethics and law.

Methods: The researchers employed qualitative method which mostly involved content analysis in order to gather related data. It is the most suitable approach in this study which aimed at investigating the contents of courses as offered at some public research universities in Malaysia. In fact, [34 and 35] emphasized that content analysis is one of research procedures that has been primarily used to analyze and justify speeches, texts, videos and their specific contents. The study focused on the scope of syllabus / courses related to biotechnology with *usuluddin* (Islamic Studies) which are offered at several Malaysian public universities, namely Universiti Sultan Zainal Abidin (UniSZA), Universiti Malaya (UM) and Universiti Sains Islam Malaysia (USIM). It was conducted only towards degree program at these three universities. They are also the pioneer in the effort to integrate these both fields (biotechnology and Islamic Studies).

DISCUSSION

Table 1 below shows the comparisons of Islamic Studies (*usuluddin*) courses at public RUs. Obviously, at University of Malaya (UM), the course of Introduction to Usuluddin (IXEX 1102) which is one of the core courses carries three credits. It discusses the fundamental knowledge beginning with *usuluddin* as a discipline of knowledge, humanity and its importance to understand more about Islam. The contents also include the studies of *Quran* and *Sunnah*, *aqeedah*, Islamic thought and civilization, history, *da'wah* and humanitarian development as a whole. Upon completing the course, the students should be able to clarify the major scopes of *usuluddin* in terms of definitions, sources and its relations to other contemporary issues [36-38]. Unlike UM, UniSZA and USIM do not include *usuluddin* in their course structure, instead they offer the students a course of Islamic theology i.e. *aqeedah* and *akhlaq*. Consequently, the students do not really get a clear picture about related scopes of *usuluddin* as what UM students have been exposed to.

Table 1: Comparisons of Islamic Studies (Usuluddin) courses at public universities

	University of Sultan Zainal Abidin (UniSZA)	University of Malaya (UM)	Islamic Science University of Malaysia (USIM)
1	UIU 3012 Aqeedah & Akhlaq	IXEX 1102 Introduction to Usuluddin	AAA 1012 Islamic Aqeedah
2	UIM 3012 Islamic Ethical & Moral Values II	IXEU 1109 Al-Aqa'id al-Islamiyyah	AAA 2022 Akhlaq & Tasawwuf
3	UIM 3022 Comparative Religion	IXEU 1108 Al-Akhlaqwa Al-Tasawwuf	AAA 1043 Principles & Practice of Communicative Da'wah
4		IDEU 2309 Islamic Da'wah & Multicultural Society	SSS 2022 History & Philosophy of Science
5		ISES 3102 Islamic Philosophy of Science	UTA 2082 Studies of Halaqah
6		ISES 2101 History and Sociology of Science & Technology in the Islamic World	
7		ISES 3101 Islamic Revealed Knowledge and Natural Phenomenon	
8		IXEU 2110 Ulum Al-Hadith	
9		IXEU 2111 Ulum Al-Quran	
10		IQEU 3323 Science in Al-Quran and al-Hadith	
11		IXEH 2208 Islamic Research Methodology	

Source: Handbook of public universities undergraduate studies [36-39]

Next, it is apparent that these three local public research universities provide *aqeedah* related courses as a basis for understanding the teachings of Islam. In fact, UniSZA offers *Aqeedah & Akhlaq* (UIU 3012) with two credits, while UM and USIM emphasize more on the courses of *Al-Aqa'id al-Islamiyyah* (IXEU 1109) and *Islamic Aqeedah* (AAA 1012) with three and two credits respectively. In general, course contents at UM and USIM are almost similar in which the discussions deal with the divinity, prophethood and unseen as embedded in the tenets of Islam. The difference is only the course credits the subjects carry where UM students benefit more as compared to USIM. The students need to complete longer hours as the scopes of subject discussion are more detailed. At UniSZA, *Aqeedah & Akhlaq* (UIU 3012) discusses the basics of the Islamic faith and morals and its significance in life. In addition, the discussions also encompass people's faith and moral during Prophets' and Rashidun Caliphs' times as well as other religious issues such as disbelief, polytheism and social problems. This course is basically offered to Muslim students while for non Muslims, they enroll in Islamic Ethical & Moral Values II (UIM 3012) as well as Comparative Religion (UIM 3022) with two credits respectively. The reason is that Bachelor of Food Biotechnology is open to Muslim and non Muslim

students. In essence, Islamic Ethical & Moral Values II (UIM 3012) discusses religious values and beliefs, the concept of these values and their applications in daily life. In contrast, Comparative Religion (UIM 3022) focuses more on world religions such as Islam, Hinduism, Buddhism, Confucianism, Judaism and Christianity. In addition, UM and USIM offer *Al Akhlaqwa Al Tasawwuf* (IXEU 1108) and *Akhlaq & Tasawwuf* (AAA 2022) with three and two credits respectively. In fact, the contents of both courses are almost similar and distinguished only by the course credits. In general, the courses highlight the aspects of moral (*akhlaq*) and ethics and their prime role in the development of Muslim character. Besides, the relationship between morality and the concept of *Sufism (tasawwuf)* is also emphasized particularly in the process of self-purification (*tazkiyah al-nafs*) in order to produce high quality human beings [39].

Da'wah is another branch in *usuluddin*. Although UniSZA does not offer such course, UM and USIM each offering Islamic Da'wah & Multicultural Society (IDEU 2309) and Principles & Practice of Communicative Da'wah (AAA 1043) with three credits respectively. At UM, the course is optional while at USIM, it is faculty mandatory course for students to enroll. In general, the contents of the two courses offered by UM and USIM

focus on basics of *da'wah*, methodologies and the role of *da'wah* in shaping a balanced society. At UM, elements of multicultural society have been included in order to avoid misunderstandings related to Islamic *da'wah* particularly among non Muslim community. On the other hand, USIM has included communicative element integrated with the concept of *da'wah*. These two are closely linked to ensure the effectiveness of *da'wah* itself. Principles, fundamentals, technology and effective communication techniques are emphasized so that the objectives of *da'wah* to spread messages of Islam to individuals, groups and organizations are attainable. In addition, UM and USIM provide Science in Islamic Philosophy of Science (ISES 3102) and History & Philosophy of Science (SSS 2022) in their education structures with three and two credits respectively. These courses deal with basic definitions of philosophy and science, Islamic philosophical science and Muslim contributions in the field of science and technology. However, such philosophical courses are not present at UniSZA.

Moreover, the history of Western philosophy and science is also debated in order to understand issues and Muslim worldviews towards the philosophy of Western science. Hence, UM has introduced two more courses to increase student understanding of the science of Islam i.e. Science in al-Quran and al-Hadith (IQEU 3323) as well as History, Sociology and Technology in Islamic World with three credits respectively. These are core courses and the extension of Philosophy of Science. In fact, the focus of these courses is more on understanding science from Islamic point of view involving two primary sources namely the Quran and Hadith. Not only that, thorough discussions on contributions of classical Islamic scholars in various branches of science and the Islamization of knowledge are also included. Apparently, USIM has introduced a faculty core course i.e. Studies of Halaqah (UTA 2082) with two credits. The students will be able to understand and learn Quranic exegesis (*tafsir*), hadith and books of Islam and *turath* (civilizational document of knowledge, culture and intellect that have been passed down) which are considered *mu'tabar* (established by personal reflection). Meanwhile, UM students are also exposed to basic knowledge of Quran and Hadith with three credits such as *Ulum al-Hadith* (IXEU 2110) and *Ulum al-Quran* (IXEU 2111). The core elements in the Quran is explained in depth which cover the definition and history of *Ulum al-Quran*, verses of *Makki* and *Madani*, the first and final Quranic verses, *Nuzul Quran*, collecting and compiling the Quran i.e. *al-Muhkamandal-Mutashabih*, *al-Nasikh andal-Mansukh*, *I'jaz al-Qur'an*,

Amthal al-Qur'an, *Aqşam al-Qur'an*, *Jadal al-Qur'an*, *Qasas al-Qur'an* and *Tarjamah al-Qur'an*. As in *Ulum al-Hadith*, apart from its main areas, some other emphasized aspects include *riwayah* and *dirayah*, *mutawatir* and *ahad* as well as key terminologies used in Hadith. Therefore, the researchers agree that the two courses i.e. *Ulum al-Quran* and *Ulum al-Hadith* should be first introduced to the students before they decide to continue studying about Hadith in depth.

CONCLUSION

Based on Table 1, it is evident that UniSZA only offers three courses of *usuluddin* as compared to UM and USIM with eleven and five courses respectively. Moreover, UM offers another two *usuluddin* based courses i.e. Revealed Knowledge & Natural Phenomenon (ISES 3101) and Islamic Research Methodology (IXEH 2208) with three credits respectively. The former one is the course extension of Aqeedah & Science. Indeed, these courses elaborate in great detail about the connection between science and natural phenomena and its implications on tawheed. All these are apparent when professionals conduct scientific research and their exercise of professionalism and ethical behaviour. The discussion on issues of faith and morals in this research gives a clear picture that the religious aspect of Islam is very significant particularly in efforts to solve the problems in today's modern biotechnology. Moreover, it also can enhance collaboration between scholars and scientists to meet and find the best solutions to various issues in order to create a quality living environment in line with the requirements of Islam as well as human nature. Thus, from Islamic viewpoints, the integration of *usuluddin* courses as introduced in the education structure of public universities concerning biotechnology researches are likely to provide knowledge and understanding of science and technology. Therefore, *usuluddin* courses offered by the three local public research universities are relevant with the current programme requirements of the integration.

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