# Minutes of the 35th

# Meeting of the Board of Studies

# Faculty of Engineering Sciences

# held on

# 23rd August 2024

# through MS TEAMS



# Bahria University Islamabad

# Contents

# Minutes of the 35th Special Meeting of Faculty Board of Studies Engineering Sciences held on 23rd August 2024 through VLC

**Attendance:**

**BUIC**

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| Prof. Dr. Faisal Bashir Hussain | Dean ES | Chair |
| Prof. Dr. Shahzad Khalid | Principal BSEAS H-11 / HoD CE H-11 | Member |
| Prof. Dr. Arif ur Rehman | HoD (CS) E-8 | Member |
| Prof Dr Moneeb Gohar | HoD (CS) H-11 | Member |
| Prof. Dr. Imran Fareed | HoD (EE) H-11 | Member |
| Snr. Assoc. Prof. Dr. Syed Umair Ullah Jamil | HoD(E&ES) H-11 | Member |
| Snr. Assoc. Prof. Dr. Adeel Syed | HoD (SE) H-11 | Member |

**BUKC**

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| Prof. Dr. Sohaib Ahmad | Associate Dean / Principal BSEAS BUKC | Member |
| Assoc. Prof. Dr. Mukesh Kumar Maheshwari | HoD (EE) | Member |
| Snr. Asst. Prof. Dr. Shoaib Mughal | HoD (CE) | Member |
| Snr. Assoc. Prof. Dr. Hina Shakir | HoD (SE) | Member |
| Assoc. Prof. Dr. Syed Safdar Ali | HoD (CS) | Member |
| Assoc. Prof. Dr. Salma Hamza | HoD (E&ES) | Member |

**BULC**

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| Snr. Asst. Prof. Dr. Khawaja Qasim Maqbool | HOD (CS) | Member |

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## Proceedings

## Preliminaries
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FBoS ES meeting took place on 23<sup>rd</sup> August 2024, with the quorum complete, the proceedings commenced at 0930 hours, with recitation from the Holy Quran.

In his opening remarks, the Chair stressed the importance for participation in the proceedings while staying focused on the point under deliberation.

**Item3501: Revision of BEE Program Curriculum**

Sponsor: HOD EE BUKC                    Referral Authority: DBOS EE BUKC & BUIC H 11

**Summary of the Case**
- The curriculum of BEE program has been revised by the Pakistan Engineering Council (PEC). In this regard, roadmaps of BEE programs of EE Dept BUIC & BUKC are aligned according to the new PEC's BEE roadmap.

**Discussion**
- HoD EE BUKC presented the agenda and he highlighted on the following major changes in the revised BEE Roadmap:
    - Breadth Core Courses for the Telecommunication, Electronics & Power specialization streams are changed. Power Distribution and Utilization is added as major based core (MBC) course in 6th semester.
    - As recommended by PEC, Final Year Design Project is offered as Project I (2+0) and Project II (4+0) in 7th and 8th semester, respectively.
    - Two new specialization streams of Electrical Vehicles and Computer Systems have been added to the new PEC BEE curriculum. The new streams are made part of the revised curriculum of BEE program of BU but can be offered after approval of PEC through change of scope/zero visit.
    - After comprehensive review and deliberation, both EE departments (BUIC & BUKC) have designed the revised roadmap of BEE program that is aligned with the PEC's Dec 2023 revised BEE program roadmap.
    - Since, the first 2 years (4 semesters) of the new Roadmap of BEE program is aligned with the previously approved Roadmap of BEE at BU (Reference ACM 45 Appendage 45(4130) B2). Therefore, it is suggested to implement and approve the roadmap from Fall 2023 intake.

**Decision 3501**

The revised curriculum of BEE program (as recommended by DBoS) is approved by FBoS for implementation from Fall 2023 intake and is attached at Appendage 3501. Final approval of the revised BEE program curriculum and roadmap to be solicited from the ACM.

**Item3502: Curriculum Revision of MS EE Program**

Sponsor: HOD EE BUIC                    Referral Authority: DBoS EE BUIC H 11 & BUKC

**Summary of the Case**
- Curriculum revision is a continuous process, few new courses are added in the MS Electrical Engineering program. In addition, course contents and course codes of some courses in the said program are revised.

**Discussion**
- HoD EE presented the revised course codes and contents as recommended by the respective DBoS. The complete roadmap, updated course codes, and revised contents were tabled for the approval of the FBoS.
- MS Electrical Engineering provides advanced knowledge and skills in the design, analysis, and application of electrical systems and technologies. The program covers key areas such as power systems, control engineering, signal processing, telecommunications, and microelectronics.

- During the discussion it was highlighted that mapping of all courses (Core/Elective) should be done on relevant UN SDG's.

**Decision 3502**

The revised curriculum of MS EE program is approved by FBoS for implementation from Fall 2024 intake and is attached at Appendage 3502. The same will be subsequently forwarded to the ACM for approval.

**Item3503: Curriculum Revision of MS SE Program**
Sponsor: HOD SE BUIC | Referral Authority: DBoS SE BUIC & BUKC

**Summary of the Case**
- Curriculum revision is a continuous process, few new courses are added in the MS Software Engineering program. In addition, course contents and course codes of some courses in the said program are revised.

**Discussion**
- HoD SE BUIC presented the revision in the curriculum as was recommended by the respective DBoS.
- MS SE program offers specialized courses for the design, development, and maintenance of complex software systems. The program covers key topics such as software architecture, s/w development methodologies, software quality assurance, data science, analytics, DevOps, and cloud computing.

**Decision 3503**

The revised curriculum of MS SE program is approved by FBoS for implementation from Fall 2024 intake and is attached at Appendage 3503. The same will be subsequently forwarded to the ACM for approval.

**Item3504: Curriculum Revision of MS EM**
Sponsor: HOD SE BUIC | Referral Authority: DBoS SE BUIC

**Summary of the Case**
- Curriculum revision is a continuous process, few new courses are added in the MS Engineering Management program. In addition, course contents and course codes of some courses in the said program are revised. The 5XX or 6XX course codes are revised/updated to 7XX level in accordance with Graduate Education Policy of HEC.

**Discussion**
- HoD EM BUIC presented the revision in the curriculum as was recommended by the respective DBoS.

**Decision 3504**

 The revised curriculum of MS EM program is approved by FBoS for implementation from Fall 2024 intake and is attached at Appendage 3504. The same will be subsequently forwarded to the ACM for approval.

## Item3505: Curriculum Revision of MS CS Program
Sponsor: HOD CS BUIC                              Referral Authority: DBoS CS BUIC/BUKC

**Summary of the Case**
- In the MS Computer Science program few new courses are added, also course contents and course codes of some courses in the said program are revised. The 5XX or 6XX course codes are revised/updated to 7XX level in accordance with Graduate Education Policy of HEC.

**Discussion**
- MS in Computer Science provides advanced education in the theory and application of computing and software systems. The program covers key areas such as algorithms, machine learning, artificial intelligence, data science, networks, cloud computing, and software engineering.
- The complete roadmap, updated course codes, and revised contents of MS CS program were tabled for approval.
- During the discussion on the elective courses, it was highlighted that Augmented Reality and Game Theory courses should be included.

**Decision 3505**
The revised curriculum of MS CS program for implementation from Fall 2024 intake is approved by FBoS and is attached at Appendage 3505. The same will be subsequently forwarded to ACM for approval.

## Item3506: Curriculum Revision of MS DS Program
Sponsor: HOD CS BUIC E 8                        Referral Authority: DBOS CS BUIC E 8

**Summary of the Case**
- In the MS Data Science program few new courses are added, also course contents and course codes of some courses in the said program are revised. The 5XX or 6XX course codes are revised/updated to 7XX level in accordance with Graduate Education Policy of HEC.

**Discussion**
- Master of Science (MS) in Data Science equips students with advanced skills in analyzing, interpreting, and deriving insights from vast amounts of data. The program covers essential topics such as machine learning, statistical modeling, big data analytics, data mining, and data visualization.
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- The complete roadmap, updated course codes, and revised contents of MS DS program were tabled for approval.

**Decision 3506**
The revised curriculum of MS DS program for implementation from Fall 2024 intake is approved by FBoS and is attached at Appendage 3506. The same will be subsequently forwarded to ACM for approval.

## Item3507: Curriculum Revision of MS IS Program
Sponsor: HoD CS BUIC E 8                          Referral Authority: DBoS CS BUIC E 8

**Summary of the Case**
- In the MS Information Security program few new courses are added, also course contents and course codes of some courses in the said program are revised. The 5XX or 6XX course codes are revised/updated to 7XX level in accordance with Graduate Education Policy of HEC.

**Discussion**
- MS IS program equips students with advanced expertise in safeguarding digital systems, data, and networks against cyber threats. The program covers critical areas such as cryptography, network security, computer security, ethical hacking, risk management, and security challenges posed in contemporary technologies.
- The complete roadmap, updated course codes, and revised contents of MS IS program were tabled for approval.

**Decision 3507**
The revised curriculum of MS IS program for implementation from Fall 2024 intake is approved by FBoS and is attached at Appendage 3507. The same will be subsequently forwarded to ACM for approval.

## Item3508: Curriculum Revision of MS Mathematics Program
Sponsor: HOD CS BUIC E 8                          Referral Authority: DBoS CS BUIC E 8

**Summary of the Case**
- In the MS Mathematics program new courses are added, also course contents and course codes of some courses in the said program are revised. The 5XX or 6XX course codes are revised/updated to 7XX level in accordance with Graduate Education Policy of HEC.

**Discussion**
- MS Mathematics provides advanced education in mathematical theory and analysis. It covers core areas such as algebra, calculus, differential equations, functional analysis, integral equations, group theory, geometry and numerical analysis.
- The complete roadmap, updated course codes, and revised contents of MS Maths program were tabled for approval.

**Decision 3508**
The revised curriculum of MS Mathematics program for implementation from Fall 2024 intake is approved by FBoS and is attached at Appendage 3508. The same will be subsequently forwarded to ACM for approval.

## Item3509: Curriculum Revision of MS CE Program

Sponsor: HOD CE                                   Referral Authority: DBOS CE BUIC E 8

**Summary of the Case**

- Course contents and course codes of MS Computer Engineering program are revised. Few courses that had 5XX or 6XX codes are revised/updated to 7XX level in accordance with Graduate Education Policy of HEC.

**Discussion**

- HoD CE presented the revised course codes and contents as recommended by DBoS.
- MS Computer Engineering offers advanced knowledge and skills in designing, developing, and optimizing computer systems, hardware, and software. This program focuses on key areas like embedded systems, signal processing, computer architecture, network security, artificial intelligence, image processing, and VLSI design.
- The complete roadmap, updated course codes, and revised contents are tabled for approval.

**Decision 3509**

The revised curriculum of MS CE program as recommended by DBoS is approved by FBoS and attached at Appendage 3509. The same will be subsequently forwarded to ACM for approval.

## Item3510: Curriculum Revision of MS Geology Program

Sponsor: HOD E&ES                                 Referral Authority: DBOS E&ES BUIC

**Summary of the Case**

- Course contents and course codes of MS Geology program are revised. Few courses that had 5XX or 6XX codes are revised/updated to 7XX level in accordance with Graduate Education Policy of HEC.

**Discussion**

- HoD E&ES presented the revised course codes and contents as recommended by DBoS.
- Master of Science (MS) in Geology offers advanced knowledge in the study of Earth's physical structure, processes, and history. The program covers key topics such as mineralogy, sedimentology, geophysics, paleontology, and environmental geology.
- The complete roadmap, updated course codes, and revised contents are tabled for approval.

**Decision 3510**

The revised curriculum of MS Geology program as recommended by DBoS is approved by FBoS and attached at Appendage 3510. The same will be subsequently forwarded to ACM for approval.

## Item3511: Curriculum Revision of MS ES Program

Sponsor: HOD E&ES                                 Referral Authority: DBOS E&ES BUIC

**Summary of the Case**

- Course contents and course codes of MS Environmental Science program are revised. Few courses that had 5XX or 6XX codes are revised/updated to 7XX level in accordance with Graduate Education Policy of HEC.

**Discussion**
- HoD E&ES presented the revised course codes and contents as recommended by DBoS.
- Master of Science (MS) in Environmental Science aims to impart students with advanced knowledge of ecological systems, environmental policies, and sustainability practices. The program covers key areas such as climate change, conservation biology, environmental impact assessment, pollution control, and natural resource management.
- The complete roadmap, updated course codes, and revised contents are tabled for approval.

**Decision 3511**
The revised curriculum of MS ES program as recommended by DBoS is approved by FBoS and attached at Appendage 3511. The same will be subsequently forwarded to ACM for approval.

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| **Item3512: Curriculum Revision of MS Geophysics Program** | |
| Sponsor: HOD E&ES | Referral Authority: DBOS E&ES BUIC |

**Summary of the Case**
- Course contents and course codes of MS Geophysics program are revised. Few courses that had 5XX or 6XX codes are revised/updated to 7XX level in accordance with Graduate Education Policy of HEC.
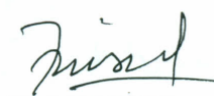
**Discussion**
- HoD E&ES presented the revised course codes and contents as recommended by DBoS.
- Geophysics focuses on the study of Earth's physical properties and processes using quantitative methods. The program covers key areas such as seismic analysis, electromagnetism, gravitational fields, and subsurface imaging techniques. Students gain expertise in interpreting geophysical data to explore natural resources, assess geological hazards, and study Earth's internal structure.
- The complete roadmap, updated course codes, and revised contents are tabled for approval.

**Decision 3512**
The revised curriculum of MS Geophysics program as recommended by DBoS is approved by FBoS and attached at Appendage 3512 The same will be subsequently forwarded to ACM for approval.

# Closing of the Meeting
There being no further points, the Chair brought the meeting to a close, thanking the participants for their wholehearted participation in both sessions.

**Prof. Dr Faisal Bashir Hussain**
Dean (ES), Head FBOS
10th Sep 2024