# Bachelor of Science in Computer Science and Engineering

Computer Science and Engineering (CSE) department is the largest engineering department of the University of Liberal Arts Bangladesh (ULAB). CSE specializes in all major areas of computational problem-solving. It is committed to producing graduates who are true engineers and systematic problem solvers capable of solving real life problems.

CSE is the best-placed department to take advantage of the IT boom in Bangladesh and around the world. We contribute to the development of cutting-edge technology that has a positive social impact. We endorse a curriculum based on theoretical knowledge as well as research and project-oriented applied skill that have close ties to social welfare and industries. The department offers a platform for fundamental knowledge generation relevant to information technologies. As a pragmatic department, we practice active learning as we believe that this discipline cannot be excelled in just by mare theoretical understanding. This aim is to produce creative thinkers who are apt to bridging the gap between society and technology disseminating the liberal arts values of ULAB. The program has been accredited by the Institute of Engineers Bangladesh (IEB) since 2017.

## Vision

* To produce highly competent graduates who will become leaders in Computer Science and Engineering.

## Mission

* To prepare our students to meet high standards of excellence for professional career achievement.
* To create and disseminate new knowledge through basic applied research in the field of Computer Science and Engineering.
* To build strong relationship between industry and academia eliminating the gap.

## Goals

Long Range Goals

* Quality teaching and learning environment
* Industry Academia Collaborations
* Incubation of real-life developments with ICT industries
* Partnership with ICT Leaders both at home and abroad
* Research and developments ICT4D activities

Short Range Goals

* Develop course curricula based on industry requirements
* Deliver course lessens with industry focus
* Nurture creativity and innovations
* Joint research initiatives with the ICT industry

# Message from the Head of the Department

Welcome to the Department of Computer Science and Engineering at ULAB. CSE is an extremely dynamic, fast paced, ever changing field. ULAB CSE will equip you with the skills and tools necessary to be always at the top of your game. Along with these, you will pick up an attitude of continuous self-improvement. The curricular teaching is supported and enhanced by constant interaction with the ICT industry. We have extremely qualified faculties with PhDs from all around the world including USA, UK, Australia, Japan and Europe. I am very proud of the fact that our students are in good positions in jobs at both home and abroad. Many of our alumni are also pursuing their postgraduate degrees at well-reputed universities all around the world. As you embark upon your university life, we would like to wish you the very best. Hope to see you at ULAB CSE.

– Prof. Md. Abdul Mottalib, PhD

Head, Department of Computer Science and Engineering

Dean, School of Science and Engineering

[Please use of photo of Prof. Mottalib]

# Highlights of the Department of CSE

* Current Head of the Department, Prof Dr Md. Abdul Mottalib, is one of the prominent academics in Bangladesh who is famous for his contribution to Information Technology. He has added a huge amount of value to the department with his previous experience of leading the Departments of Computer Science and Engineering of BRAC University, Islamic University of Technology, and the University of Dhaka. Prof. Mottalib is also working as the dean of the School of Science and Engineering of ULAB.
* More than 70% of faculty members of the department hold PhD degrees from top universities in the world.
* Only university in Bangladesh having a state-of-the-art Internet of Things (IOT) laboratory sponsored by the government of Bangladesh.
* Presence of alumni in renowned IT companies and universities at home and abroad.
* Department of CSE is accredited by the Institute of Engineers Bangladesh (IEB).
* One of the highest male to female ratio among CSE departments in Bangladesh.
* The department has a strong industry advisory panel.
* Faculty expertise and research networks within the booming field of Artificial intelligence, Data Science, Machine learning, Internet of things (IOT), Blockchain and Cyber Security, Bioinformatics, and Mobile App Development which are among the most desired and highly paid job skills of this decade.

# Degree Requirement for BSc in CSE

Total course requirements for degree program are as follows:

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| General Education Courses | 10 courses (30 credits) |
| CSE Major Core Courses | 24 courses (79 credits) |
| CSE Major Elective Courses | 04 courses (12 credits) |
| Capstone Project | 01 courses (04 credits) |
| Optional/Minor Course | 05 courses (15 credits) |
| Total | 44 courses (140 credits) |

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CSE Major Core Courses

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| Course Code | Course Title | Credit Hours |
| CSE 103 | Structured Programming | 3 |
| CSE 104 | Structured Programming Lab | 1 |
| CSE 201 | Object Oriented Programming | 3 |
| CSE 202 | Object Oriented Programming Lab | 1 |
| CSE 203 | Computer Organization and Architecture\* | 3 |
| CSE 204 | Operating Systems\* | 3 |
| CSE 205 | Discrete Mathematics | 3 |
| CSE 207 | Data Structures | 3 |
| CSE 208 | Data Structures Lab | 1 |
| CSE 303 | Database Systems\* | 3 |
| CSE 305 | Algorithms | 3 |
| CSE 306 | Algorithms Lab | 1 |
| CSE 307 | Microprocessor and Interfacing\* | 3 |
| CSE 309 | Data Communication and Computer Networks\* | 3 |
| CSE 401 | System Analysis & Design | 3 |
| CSE 404 | Software Engineering\* | 3 |
| CSE 412 | Programming with Java | 3 |
| CSE 413 | Programming with Java Lab | 1 |
| CSE 417 | Automata and Theory of Computation\* | 3 |
| CSE 480 | Web Technology\* | 3 |
| CSE 499 | Project / Internship | 4 |

CSE Major Elective Courses (Any 4 courses / 12 credits)

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| Course Code | Course Title | Credit Hours |
| CSE 402 | Wireless and Mobile Computing\* | 3 |
| CSE 403 | E-Commerce\* | 3 |
| CSE 405 | Computer Graphics\* | 3 |
| CSE 406 | Embedded Systems\* | 3 |
| CSE 407 | Database Management System-II\* | 3 |
| CSE 408 | Computer Modeling and Simulation\* | 3 |
| CSE 409 | Advanced Programming Languages\* | 3 |
| CSE 410 | Artificial Intelligence\* | 3 |
| CSE 414 | Software Quality Assurance and Testing | 3 |
| CSE 415 | Visual Programming\* | 3 |
| CSE 416 | Net Programming using C#\* | 3 |
| CSE 418 | Routers and Routing Basics\* | 3 |
| CSE 419 | Management Information System (MIS) | 3 |
| CSE 420 | Compiler Design\* | 3 |
| CSE 421 | WAN Technology\* | 3 |
| CSE 422 | Systems Programming\* | 3 |
| CSE 423 | Advanced Computer Architecture\* | 3 |
| CSE 424 | Parallel Programming | 3 |
| CSE 425 | Peripherals and Interfacing\* | 3 |
| CSE 426 | Advanced Computer Networking\* | 3 |
| CSE 427 | Multimedia Design and Development\* | 3 |
| CSE 428 | Enterprise Systems Design and Development\* | 3 |
| CSE 429 | Digital Image Processing\* | 3 |
| CSE 430 | Neural networks and Pattern Recognition\* | 3 |
| CSE 431 | Computational Geometry | 3 |
| ETE 315 | Digital Signal Processing\* | 3 |
| ETE 463 | Optical Fiber Communication\* | 3 |
| CSE 429 | Digital Image Processing | 3 |
| CSE 447 | VLSI Design\* | 3 |

Mathematics and Statistics Courses

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| Course Code | Course Title | Credit Hours |
| MAT 101 | Differential and Integral Calculus | 3 |
| MAT 102 | Co-ordinate Geometry and Linear Algebra | 3 |
| MAT 201 | Differential Equations and Numerical Analysis | 3 |
| MAT 203 | Mathematical Methods | 3 |
| STA 206 | Statistics and probability | 3 |

Physics and Electronics Courses

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| Course Code | Course Title | Credit Hours |
| PHY 101 | Physics I | 3 |
| ETE 202 | Electronic Devices and Circuits I | 3 |
| ETE 203 | Electronic Devices and Circuits I Lab | 1 |
| ETE 204 | Digital Electronics | 3 |
| ETE 205 | Digital Electronics Lab | 1 |

\*Courses with lab work (Courses with lab will have 6 contact hours and courses having no lab will have 3 contact hours).

Students may obtain a minor in the CSE Department, they must complete the compulsory course and any 4 courses from the rest.

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| **Compulsory** | **Course Code** | **Course Title** | **Credit Hours** |
|  | CSE 103 | Structured Programming | 3 |
|  | CSE 104 | Structured Programming Lab | 1 |

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| **Any Four** | **Course Code** | **Course Title** | **Credit Hours** |
|  | CSE 303 | Database Systems | 3 |
|  | CSE 311 | Automated Office Management | 3 |
|  | CSE 403 | E-Commerce | 3 |
|  | CSE 406 | Embedded Systems Design | 3 |
|  | CSE 412+  CSE 413 | Java Programming and Java Programming Lab | 3+1 |
|  | CSE 416 | .Net Programming using C# | 3 |
|  | CSE 419 | Management Information System | 3 |
|  | CSE 427 | Multimedia Design and Development | 3 |
|  | CSE 428 | Enterprise System Design and Development | 3 |
|  | CSE 429 | Digital Image Processing | 3 |
|  | CSE 447 | VLSI Design | 3 |
|  | CSE 480 | web Technology | 3 |

GED Core (7 Courses / 21 credits)

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| Course Code | Course Title |
| CSE 101 | Introduction to Computer Studies |
| ENG 101 | Basic English |
| ENG 102 | Fundamentals of English-I |
| ENG 103 | Fundamental of English-II |
| GED 100 | Bangladesh Studies |
| GED 101 | Bangla Bhasha |
| GED 201 | World Civilization |

Note: Placement in English courses will be based on diagnostic tests. Anyone placing out of courses may take Optional courses in lieu of them.

GED Electives (3 courses / 09 credits)

GED Elective offerings is determined by the department and varies from semester to semester. Students will have to choose their courses form the list of the offered GED electives in that particular semester.

# Outcome-Based Education (OBE) Curriculum

Outcome-Based Education (OBE) curriculum is designed to achieve goals in the course level and program level. The curriculum design has been emphasized with utmost importance so that the design curriculum can work for a long duration to achieve the defined programmed objectives. Conceptualizing this OBE theory as a foundational structure, CSE program of ULAB has set twelve Program Learning Outcomes (POs) which have been defined by Board of Accreditation for Engineering and Technical Education (BAETE) of the Institution of Engineers Bangladesh (IEB).

Program Learning Outcomes (POs)

1. **Engineering Knowledge** -Apply knowledge of mathematics, sciences, engineering fundamentals and manufacturing engineering to the solution of complex engineering problems;
2. **Problem Analysis** – Identify, formulate, research relevant literature and analyze complex engineering problems, and reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences;
3. **Design/Development of Solutions** – Design solutions, exhibiting innovativeness, for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, economical, ethical, environmental and sustainability issues.
4. **Investigation** – Conduct investigation into complex problems, displaying creativeness, using research-based knowledge, and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions;
5. **Modern Tool Usage** – Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering activities, with an understanding of the limitations;
6. **The Engineer and Society** – Apply reasoning based on contextual knowledge to assess societal, health, safety, legal, cultural, contemporary issues, and the consequent responsibilities relevant to professional engineering practices.
7. **Environment and Sustainability** – Understand the impact of professional engineering solutions in societal, global, and environmental contexts and demonstrate knowledge of and need for sustainable development;
8. **Ethics** – Apply professional ethics and commit to responsibilities and norms of professional engineering code of practices.
9. **Communication** – Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions;
10. **Individual and Teamwork** – Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.
11. **Lifelong Learning** – Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
12. **Project Management and Finance** – Demonstrate knowledge and understanding of engineering management and financial principles and apply these to one’s own work, as a member and/or leader in a team, to manage projects in multidisciplinary settings, and identify opportunities of entrepreneurship.

# IT Facilities

## Internet of Things (IoT) Lab

ULAB is a home of the state-of-the-art IoT lab financed by the World Bank. The lab is used to train and develop human resources in IoT to face the challenge of fourth industrial revolution.

## PCs and Labs

* Nine Computer Labs with Internet connections for conducting experiments of CSE.
* Browsing PCs in lobbies and lounges for Students
* Wi-Fi coverage in all Campuses
* Licensed Anti-Virus software for all computers

## Email, Web and Internet ULAB Domain

* ULAB provide webmail for students with 25 GB per user
* Grades/results published online
* 24-hour free Internet access for all
* High bandwidth Internet connectivity with redundancy connection

## LAN, Server and Domain Controller

* ONLINE and OFFLINE power backup for all computers
* Subscription of Microsoft Imagine Academy for each student
* Domain Controller for all students in the Computer Lab
* Licensed Versions of Operating System
* Central File Server access for all
* Separate Power Distribution Room with 10 ONLINE UPS.

## Facilities

* One-man-one-computer for all academic and admin members
* Multimedia and Internet Facilities in all Classrooms
* ID Card Management Systems
* IT Helpdesk IT-based Security
* Access Controller CCTVs for security monitoring

# Library

* The Central Library located on the 1st floor, House # 56, Road # 4A, Dhanmondi R/A, Dhaka-1209.
* A second library is located in the Permanent Campus at Mohammadpur.

## Opening Hours

The Central Library opening hour is from 8:30 AM to 9:30 PM. Libraries remain open 13 hours (on average) every week day.

## Resources

The ULAB Library is enriched with various types of resources that include textbooks, reference books, e-books, national and international journals (print and online), magazines (print and online), reports, newspapers (national and international), audio-visual materials and maps and atlases.

ULAB Library is a member of a variety of online archives such as

* JSTOR (Business Collections and Language and Literature Collections),
* AMIC (Asian Media Information and Communication Center),
* ICA (International Communication Association),
* Chronicle of Higher Education,
* CEP Online (Country Education Profiles Online), T
* he New Yorker, Business Week,
* IAMCR international Association for Media and Communication Research),
* Harvard Business Review (HBR),
* South Asia Journal (SAJ),
* Global Alliance for Public Relations and Communication Management (GAPRCM),
* World Bank E-Library,
* Intellect Journal, AGORA, HINARI, OARE, Ecch (Cases Archive),
* Journal of Bangladesh Studies (JBS),
* Oxford Open Access Journals,
* Journals of Public Relations,
* Directory of Open Access Journals, Eifl.net (Electronic Information for Library Users),
* Bangladesh Journals Online.

# Faculty Profile

[Please include a photo of each faculty member]

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| Md. Abdul Mottalib, PhD | | |
| Education: PhD (Indian Institute of Technology, | Position: Professor, Dean of School of Science and Engineering and Head of the Department of Computer Science and Engineering | Research Interest: Natural Language Processing, Machine Learning, Data Science |
| **Short Biography**: Prof Dr Md Abdul Mottalib received his PhD in Computer Science and Engineering from Indian Institute of Technology (IIT), Kharagpur, India in 1993 and M.S. in Computer Science from Asian Institute of Technology, Thailand in 1984. He secured first class second position and first-class first position in his BSc (Hons.) and MSc in Applied Physics and Electronics from Dhaka University in 1976 (held in 1978) and 1977 (held in 1980) respectively. Currently, he is working as a Professor and Head of the Dept of CSE at ULAB. Earlier he worked at BRAC University where he served as chairperson of the CSE department. He served as Head and Professor of CSE department of Islamic University of Technology (IUT), Board Bazar, Gazipur, Bangladesh from September 1998 to May 2017. Before joining IUT, he has worked as a Professor and Chairman of the Department of Computer Science in the University of Dhaka where he served since 1993. Earlier he worked as a faculty member in various positions in Applied Physics and Electronics Department, Dhaka University since 1982 and 1 year in Bangladesh Atomic Energy Commission. He has been working as an expert member in many national and international important Committees. He served as examiner of many PhD, MSc and BSc thesis. In 1984, he developed ever first computer-based Bangla software “Bangla”. Dr Mottalib achieved a Gold Medal as the best paper award for his research paper on "Computer-Based Bengali Voice Synthesis" that was presented in the International Conference on Computer and Information Technology in January 2001. | | |

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| H. M. Jahirul Haque, PhD | | |
| Education: PhD (Kharkiv, Ukraine) | Position: Professor and Vice-Chancellor | Research Interest: Education Management |
| **Short Biography:** | | |

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| Mohammad Shorif Uddin, PhD | | |
| Education: PhD (Kyoto Institute of Technology, Japan) | Position: Adviser and Adjunct Professor | Research Interest: Artificial Intelligence, Image Processing, Computer Vision, Soft Computing |
| **Short Biography:** Mohammad Shorif Uddin received his Doctor of Engineering degree in information Science from Kyoto Institute of Technology in 2002, Japan, Master of Technology Education degree from Shiga University, Japan in 1999, Bachelor of Electrical and Electronic Engineering degree from Bangladesh University of Engineering and Technology in 1991 and MBA in from Jahangirnagar University in 2013. He has around twenty-nine years’ experience in teaching Computer Science and Engineering. Currently, He is working as an Adviser to the School of Science and Engineering, ULAB and as a Professor at Jahangirnagar University. He undertook postdoctoral research at the Bioinformatics Institute, Singapore, Toyota Technological Institute, Japan and Kyoto Institute of Technology, Japan, Chiba University, Japan, Bonn University, Germany, Institute of Automation, Chinese Academy of Sciences, China. His research is focused on the field of intelligent systems, imaging informatics and computer vision. | | |

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| Mohammad Shahriar Rahman, PhD | | |
| Education: PhD (JAIST, Japan) | Position: Associate Professor Cyber Security | Research Interest: Blockchain, Data Privacy |
| **Short Biography:** Dr Shahriar has over 12 years of experience within both academia and industry. His interest to solve real-world problems in Cyber Security domain has resulted over 50 research papers and patents. He also focuses on privacy as an information security paradigm in an increasingly knowledge-based connected world facilitated by the Blockchains, Smart Cities, Internet of Things (IoT) and Cloud Computing. | | |

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| Abul Kalam Al Azad, PhD | | |
| Education: PhD (Exeter, UK)  Post-Doc Fellow (Plymouth and Bristol, UK) | Position: Associate Professor | Research Interest: Dynamical Systems, Theoretical Neuroscience, Bioinformatics, Machine Learning |
| **Short Biography**: Dr Abul Kalam al Azad has been with ULAB since 2012. His research interest is in the areas of Dynamical Systems, Theoretical Neuroscience, Bioinformatics, and Machine Learning. He is an ardent promoter of popular science among youngsters of both science and non-science backgrounds. Apart from teaching and research, he enjoys classical music, cinema, photography, non-fiction, and traveling. | | |

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| Muhammad Golam Kibria, PhD | | |
| Education: PhD (HUFS, South Korea) | Position: Associate Professor | Research Interest: IoT, Project Development, Semantic web, Web-of-Objects (WoO) |
| **Short Biography**: Dr Muhammad Golam Kibria has more than 14 years of academic, research and industry experiences. He achieved PhD in 2018 in South Korea and MSc in 2008 in United Kingdom. His research interest includes IoT, semantic and Web-of-Objects. He has numerous internationally peer-reviewed journals, contributed to several projects and standardization works at the International Telecommunication Union (ITU-T) under the United Nations (UN). | | |

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| T. M. Abul Kalam Azad, PhD | | |
| Education: PhD (Jahangirnagar University, Bangladesh) | Position: Associate Professor | Research Interest: Computational Fluid Dynamics |
| **Short Biography**: Dr T. M. Abul Kalam Azad received PhD degree on Applied Mathematics from the Department of Mathematics, JU. His research interest is Computational Fluid Dynamics and research work concentrated on the study of the pollutant behavior in the fluid media. He has more than 25 years teaching experience at home and abroad. He has published several papers in peer-reviewed international and national journals. He is a life member of Bangladesh Mathematical Society. | | |

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| ASM Shihavuddin, PhD | | |
| Education: PhD (Girona, Spain) Post-Doc Fellow (ENS, Paris) | Position: Associate Professor | Research Interest: Machine Learning, Computer Vision, Data Science |
| **Short Biography**: Dr ASM Shihavuddin is renowned for his contributions in the fields of Computer Vision and Deep Learning. Science, Nature Communications, Neuron, Development, Remote Sensing and Energies are among top journals where his novel contributions in image processing and machine learning fields are being published over the years. | | |

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| Farhana Sarker, PhD | | |
| Education: PhD (Southampton, UK) | Position: Assistant Professor | Research Interest: Data Analytics, Technology Enhanced Learning, Entrepreneurship |
| **Short Biography**: Dr Farhana Sarker is an Assistant Professor within the Department of Computer Science and Engineering at the University of Liberal Arts Bangladesh (ULAB). She completed her PhD in Computer Science from the School of Electronics and Computer Science (ECS), University of Southampton, UK. Prior to her PhD study, she worked in academia as well as software industry from 2005 to 2009. She has a good number of publications in renowned journals and conferences. | | |

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| Nafees Mansoor, PhD | | |
| Education: PhD (UTM, Malaysia) | Position: Assistant Professor | Research Interest: Wireless Networks and Protocols, Cognitive Radio Networks, Smart City, IoT |
| **Short Biography**: Dr Nafees Mansoor received the PhD degree from Universiti Teknologi Malaysia (UTM) in 2016 with a focus on Communication Systems and Networks. His research mainly focuses on cognitive radio networks, wireless communications, and next-generation systems. He is the recipient of best paper awards at ICAICT 2016, NCCP 2015, ICEEE 2014, and MJJIS 2013. He is also serving as the Associate Editor for the IEEE Access Journal. | | |

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| Muhammad Abul Hasan, PhD | | |
| Education: PhD (UTS, Australia) Post-Doc Fellow (KAIST, South Kora and UniSA, Australia) | Position: Assistant Professor | Research Interest: Machine learning, Deep Learning, Robotics, Computer Vision |
| **Short Biography**: Dr Muhammad Abul Hasan is an Assistant Professor of Computer Science and Engineering at ULAB with a diverse teaching and research experience. He is a lifelong learner and a passionate teacher who also loves to solve engineering problems. His research interests lie in the area of Artificial Intelligence, Machine Learning, Deep Learning and its applications to Computer Vision. | | |

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| Mohammad Rifat Ahmmad Rashid, PhD | | |
| Education: PhD (Politecnico di Torino, Italy) | Position: Assistant Professor | Research Interest: IoT, Big Data, Software Engineering |
| **Short Biography**: Mohammad Rifat Ahmmad Rashid is serving as an Assistant Professor in the Department of Computer Science and Engineering of ULAB. Before joining ULAB, he worked as a researcher in the Pervasive Technologies Research Area within the IoT Service Management Unit in LINKS foundation, Italy. He received his PhD degree from Polytechnic University of Turin, Italy in 2018 with a focus on empirical software engineering. His research interests include energy consumption analysis, model-based process optimization and data quality analysis. | | |

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| Bijan Paul | | |
| Education: BSc and MSc (Shahjalal University of Science and Technology, Bangladesh) | Position: Senior Lecturer | Research Interest: Software Engineering, Human Computer Interaction, Vehicular Adhoc Network |
| **Short Biography**: Bijan Paul has over 8 years of teaching and research experience, within both academia and industry. Moreover, he has served as a consultant in multinational companies. He was awarded for Mongol Dip (A Bilingual Screen Reading Software for Visually Impaired People) from the Govt. of the People’s Republic of Bangladesh. His research interest includes Software Engineering, Human-Computer Interaction, Internet of Things, Vehicular Adhoc Network and Wireless Sensor Network. | | |

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| Khan Raqib Mahmud | | |
| Education: MSc (KTH Royal Institute of Technology, Sweden) | Position: Lecturer | Research Interest: Image Analysis and Computer Vision, Machine Learning, Computer Simulation and Modeling |
| **Short Biography**: Mr Khan Raqib Mahmud completed his BSc (Honors) and MSc in Mathematics from Shah Jalal University of Science and Technology, Bangladesh. After that, he went to the University of Erlangen, Germany, and KTH, Sweden for his second MSc degree in Computer Simulation for Science and Engineering. His areas of interest are Computer Vision and Image Analysis, Human-Computer Interaction, Artificial Intelligence, and Machine Learning. | | |

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| Tangila Islam Tanni | | |
| Education: BSc (University of Dhaka, Bangladesh) | Position: Lecturer | Research Interest: Cloud Computing, Internet of Things, Smart City, Human-Computer Interaction, Usable Privacy and Security |
| **Short Biography**: Tangila Islam Tanni completed her Bachelor of Science in the Department of Computer Science and Engineering from the University of Dhaka. After that, she worked as a Research Assistant at Staffordshire University, UK which was funded by the European Union. She also brings experience from the industry by working as a Full-Time Software Engineer. | | |

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| Satyaki Das | | |
| Education: BSc (University of Dhaka, Bangladesh) | Position: Lecturer | Research Interest: Software Engineering, Programming, Database |
| **Short Biography:** Recently graduated from University of Dhaka, Satyaki Das began his career as a Software Engineer for Samsung Research and Development Institute, Bangladesh. His research interest lies mainly in software engineering, particularly in code cloning, program slicing, formal methods, software requirements specification, software design, software testing and quality assurance. He is also interested in working with blockchain, networking, communications and algorithm design. | | |

# Scholarships and Financial aid for students

During admission, a successful applicant may get a scholarship in ULAB based on his/her prior academic achievements and background.

## Scholarships Policy for CSE Undergraduate Admission:

* 100% tuition scholarship for students with GPA 5.0 in SSC and HSC without 4th Subject
* 100% tuition scholarship for 5 A’s in O-Level in one sitting and 2 A’s in A-Level in one sitting
* 40% tuition scholarship for students with GPA 5.0 in SSC and HSC
* 40% additional tuition scholarship for siblings/spouse
* 40% additional tuition scholarship for ULAB/GEMCON employee ward/spouse
* Up to 20% additional tuition scholarship for English medium background students
* 20% tuition scholarship on average GPA 4.50-4.99 in SSC and HSC
* 15% tuition scholarship on average GPA 4.00-4.49 in SSC and HSC
* 10% tuition scholarship on average GPA 3.50-3.99 in SSC and HSC
* 10% additional tuition scholarship for female students.

## Other Scholarship Programs:

* To encourage the students for academic and non-academic achievements, ULAB provides different types of financial aid and scholarships. These scholarships and aid are managed centrally by the Office of the Registrar.
* ULAB offers three named scholarships which cover full tuition, and individual students are given a stipend of Tk. 2,000/- per month during the regular term
* Tuition scholarships are based on semester performance and financial needs of the parent/guardian
* Dean’s Honor List
* Vice-Chancellor’s Honor List
* Children of Freedom Fighters Scholarship
* Students from Remote Areas Scholarship
* Sports-persons performing at national or competitive level
* Artists, performers, and musicians with proven abilities.

# Accommodations for male and female students

ULAB’s first female dormitory was formally inaugurated by Ms Juditha Ohlmacher, member Board of Trustees. The 78-bed dorm is now fully operational and occupied since Spring 2019. The location of the female hostel is **Road 8, 4/A, West Dhanmondi, Dhaka-1209**.

Now, students can enjoy the privilege of living right next to Campus A in a secured premise monitored by CCTV camera. The five storied building on Rd 4/A has been given a complete makeover with lounging area, rooftop garden, gym, WiFi, dining halls, TV/ reception room, indoor games, electronic appliances: microwave, refrigerator, kettles, irons, and water filters. Bunk beds with accessories, individual fans, reading tables, book shelves and cabinets are some of the highlights. There is One warden, One faculty supervisor, weekly visit by ULAB doctor, and full time Female guard. Likewise, arrangements for a male dormitory are underway and will be launched soon.

[Need a photo]

# Cafeterias and Student Lounges

At ULAB, all of its campuses have cafeterias and student lounges with fresh food at an affordable price for students’ study, relaxation, and “adda”. The cafeteria in the permanent campus has a mezzanine floor and wide glass windows allowing in natural sunlight and offering unparalleled views overlooking the lush green fields beyond.

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# Counseling and Career Development Trainings and Workshops

To understand the needs of students well, Career Services staffs meet one-on-one with students to learn about interests and future plans. This personal contact enables the office to understand individual student’s needs such as internships, graduate school, jobs or career guidance. Accordingly, Career Services Office offers specialized hands-on workshops on career planning, interpersonal skills, leadership, motivation, and personal and professional development. Some of the regularly organized career related workshops and events are Skills 4 Career and Career Vision. Skills 4 Career is for the students of beginning terms, which highlights Career Planning, Goal Setting, Motivation, and Team Building. Career Vision is for the students of mid to ending terms, which highlights PowerPoint Presentations, Vocabulary Works, discovering dream job, Realities of the job market, Networking Skills, how to market, Internet Etiquette, Professional CVs, and Interview Skills.

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# Internship Placements

Students of the Undergraduate Programs, in their final term at ULAB are placed in an organization as an intern to appreciate and experience the dynamics of working in real organization. In addition to carrying out activities required by the organization, students are required to complete a report which is assigned either by the organization or by the student internship supervisor at ULAB.

Each term, ULAB Career Services Office organizes internship orientation to disseminate detail information on doing internship/Project/Dissertation. It has been made mandatory for all students to present doing internship in their last term. Usually students arrange internship organizations of their own. However, the Career Services Office assists to find internship organizations for those students who have been unable to arrange one.

During the past three semesters (Fall 2018, Spring 2018 and Summer 2018), a total of 90 students were registered from the department for their Internship/Project course (i.e., CSE499). It is observed that most of the students of the department prefer software development industry for their Internship workplace.

[Please use of photo]

# Job Placement

The Career Services Office assists eligible students to find jobs (limited service). Local, national and international job opportunities are advertised on its Job Board. Students are also notified of openings through ULAB email. In most cases, students of ULAB get the opportunity to join an organization right after completing their internship. Usually, most of the organization offer confirmed job opportunities to students due the skills and dedication the ULAB students possess. However, if any student fails to join in any organization, he/she has been given full guidance from ULAB Career Services Office with the help of career fair, corporate contacts, network and ULAB Alumni Association.

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# Sports and Recreational Facilities

## Outdoor games and sports facilities

ULAB has the only tournament-standard playground of any private university in Bangladesh, located in Ramchandrapur (Mohammadpur), Dhaka. Every year ULAB since 2006, ULAB has hosted the Fair Play Cup – a T-20 cricket tournament, in which other private universities have participated. The cricketers have also played against Indian and Pakistani cricket teams. An annual inter-university football match is also held on the playground.

## Indoor games and recreational facilities

Indoor facilities are available for a variety of games including: table tennis, carom, and chess.

## Student clubs and activities

The mainstay of co-curricular life at the university is its clubs. The clubs maintain regular weekly activities to enhance skills and learning, including: educational field trips, workshops, seminars, games, concerts, intra- and inter-university competitions or tournaments, etc. The Co-Curricular Office will organize all-club activities, such as Club Days, BoishakhiMelas, etc. Clubs vary from term-to-term.

## Official ULAB clubs:

* **Adventure Club:** This club provides a platform for ULAB communities to get together and engage themselves with challenging tourism activities.
* **Art Club:** ULAB Art Club arranges art workshops, art talks/seminars, and creative works.
* **Business Club:** This club provides a platform for business communities and professionals to get together and to provide support and guidance to ULAB students in various aspects related to studying, grooming and doing business in Bangladesh.
* **Computer Programming Club:** ULAB computer programming club is a club of IT-savvy ULABians, lately renamed ComSoc. It is keen to provide a platform for developing leadership skills. ComSoc arranges various workshops, training sessions, seminars based on digital technology focusing new technologies and their impacts.
* **Debating Club:** The activity of this club aims to enhance the intellectual capacity of the club members. The club will train up the members to improve their faculties of logical thinking and critical reasoning.
* **Electronics Club:** The mission of the club is to bring the students out of their rooms and to expose them to the challenges awaiting them in the field of circuit design and hardware analysis.
* **Field Sports Club:** The main activities of the Field Sports Club are to a field football and cricket team, as well as women’s sports teams, conduct coach-supervised practice, and hold intra- and inter-university sporting events at the university’s sports ground in Ramchandrapur, Mohammadpur.
* **Film Club:** ULAB Film Club is devoted to develop a true cinematic culture at the university premise. It provides a platform to the ULABians to learn how to understand film and sometimes the crafts of filmmaking.
* **Indoor Games Club:** Improve and coordinate the state of all types of indoor games at ULAB, such as Table Tennis, Carom, Ludo, Chess, Checkers, Computer Gaming, Basketball, Volleyball, Badminton, Uno, Monopoly, Skipping, Indoor Football, and Indoor Cricket.
* **The Media Club:** The ULAB Media Club is an organization where students who are interested in mass media can experience and learn about the fascinating world of media. A ULAB Media Club member gets the opportunities to become aware of and get involved with mass communication.

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# Minimum Qualifications for Undergraduate Admission

* Minimum GPA of 2.5 both in SSC and HSC examinations or equivalent,
* or, minimum GPA of 2.00 in one exam with aggregate GPA 6.00 in SSC and HSC,
* or, O’Level in 5 subjects with a minimum GPA 2.50 & A’Level in 2 subjects with a minimum GPA 2.00 (A = 5, B = 4, C = 3, D = 2, E = 1)
* or, International Baccalaureate/American High School Diploma.
* For, freedom fighters sons/daughters aggregate GPA 5.00 in SSC and HSC.
* Acceptable performance on Admission Test. (See below for details).

Students with science background in HSC or equivalent examinations are allowed to get admission in science, technology and engineering programs.

Note: Admission test is waived for candidates with minimum score of 1100 in SAT (Math + Critical Reading). However, they may have to face an interview.

Transfer of credits from comparable educational institutions may be considered after admission. Rules on credit transfer are available from the Admissions Office.

# Admission Test

ULAB will call applicants who meet the minimum eligibility requirements for an Admission Test, which will comprise of a written test and, in some cases, a departmental interview. The written test has two parts:

* Part 1 contains multiple-choice questions covering English language, mathematics, and logical reasoning.
* Part 2 is a test of written English where students have to write a short essay.