



# PROSPECTUS 2022

**UNDER  
GRADUATION**



**MIST** MILITARY INSTITUTE OF  
SCIENCE AND  
TECHNOLOGY,  
BANGLADESH

**TECHNOLOGY FOR ADVANCEMENT**





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# IMPORTANT INSTRUCTIONS

## 1. Major Academic Schedule (For Level-1 Only)- Tentative

- Term 1 (Spring Term) Class starts: 24 April 2022.
- Term 1 Final Examination: 21 August 2022.
- Term 2 (Fall Term) Class starts: 18 September 2022.
- Term 2 Final Examination: 15 January 2023.

## 2. Class Attendance

- Collegiate: Attendance 85% and above. Shall attend examination without fine.
- Non-Collegiate (NC): Attendance 75% to 84.99%. Can attend examination with fines.
- Dis-Collegiate (DC): Attendance below 75%. Cannot appear the examination. Need to re-take the course in the next suitable Term / year.

## 3. Term Registration Fee

- Pay all Registration fees in time. Else you will have to pay penalty.
- Students are not allowed to attend classes without paying registration fees.

## 4. Admission Cancellation

- Within 2 Weeks of Academic Class: Full payment refund except Security Money (25,0000 Tk).
- After 2 Weeks: No refund.
- Please do not deprive Engineering to another student by spoiling the vacancy.

## 5. Uniform

- Students are NOT allowed in the campus without uniform.
- Please get your uniform in time from the Tailor Shop.

## 6. Exam Policy

- A student completes his/her graduation within 4 years in MIST. However, maximum duration for graduation is 6 academic years for Engineering and 7 years for Architecture degree.
- The minimum CGPA requirement for obtaining a Bachelor's Degree is 2.20. Failure to achieve this grade in two consecutive levels will lead to withdrawal from MIST.
- Any student achieving grading below 'B+', may appear the improvement examination for that course.
- Highest grade of Improvement/Supplementary examination will be 'B+'.
- Student is allowed to register for a maximum of two theory courses (Failed/Improvement) in Supplementary-I and maximum of one theory course (Failed/Improvement) in Supplementary-II.
- One student is allowed to appear at Improvement exam in 6 (six) courses in his whole graduation period.
- Read MIST Exam Policy very carefully.

## 7. Zero Tolerance

- MIST shows Zero Tolerance to Drugs, Ragging, Copying, Religious Extremism, Sexual Harassment and Eve-teasing.

# ABOUT MIST

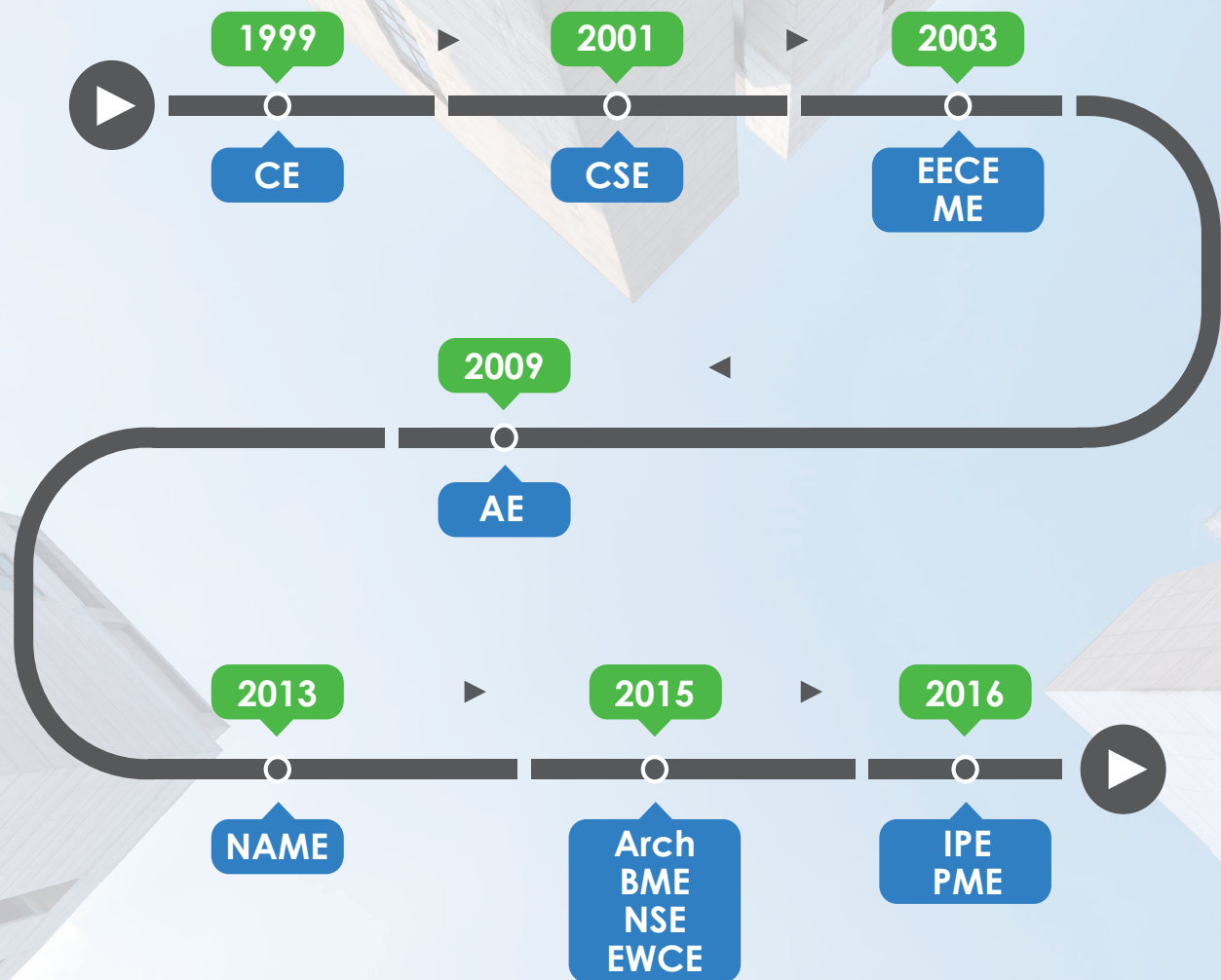


Military Institute of Science and Technology (MIST) is the pioneer technical institute of Bangladesh Armed Forces. It is purely a government educational institution focusing only engineering education and research. Head of the institution is Commandant who is a Major General from Bangladesh Army. MIST started its journey on 19 April 1998. It was the visionary dream of the Honorable Prime Minister of the People's Republic of Bangladesh Sheikh Hasina to establish this institute. MIST is located on the northwest part of Dhaka City at Mirpur Cantonment. Mirpur Cantonment is well known as the 'Education Village' of Bangladesh Armed Forces.

First Academic Program of MIST was launched on 31 January 1999 with the maiden batch of Civil Engineering (CE).



## Various Engineering Disciplines with Year of Operation



- CE** - Civil Engineering
- CSE** - Computer Science and Engineering
- EECE** - Electrical, Electronic and Communication Engineering
- ME** - Mechanical Engineering
- AE** - Aeronautical Engineering
- NAME** - Naval Architecture and Marine Engineering
- Arch** - Architecture
- BME** - Biomedical Engineering
- NSE** - Nuclear Science and Engineering
- EWCE** - Environmental, Water Resources and Coastal Engineering
- IPE** - Industrial and Production Engineering
- PME** - Petroleum and Mining Engineering



MIST also offers Ph.D / M.Sc / M Engg under CE, CSE, EECE, ME, AE, NAME, NSE, BME departments and Ph.D / M. Phil under Physics, Chemistry and Mathematics departments.

“As an institution”, MIST is already on a steady stride upholding its motto **‘Technology for Advancement’** and remains committed to contributing to the wider spectrum of national educational arena. It plays a significant role in the development of human resources and is gradually pursuing to achieve its goal as **‘Centre of Excellence’**.

Foreign students were admitted for the first time in session 2008-09. Since then, total ten students from various countries have graduated from MIST. MIST envisages creating facilities for military as well as civil students from home and abroad dedicated to pursuing standard curriculum leading to graduation and post-graduation degrees. MIST offers scholarship and stipends to the students for their outstanding results. So far a total of 4957 students have graduated from this institute. The graduates are proving their worth in higher studies and professional assignments both in home and abroad with dignity and efficiency. At present, MIST has total 2440 students out of which 83% being non-military students.





## ATTRIBUTES OF MIST

- ✓ Rigorous admission and selection process for best possible screening
- ✓ Interactive sessions in the classroom
- ✓ Regular guest lectures and educational visits
- ✓ Tradition of timeliness, commitment and uninterrupted curriculum
- ✓ Well thought-out and continuous feedback and assessment system
- ✓ Effective teaching through innovative method
- ✓ Industrial attachment for on-the-job training
- ✓ Emphasis on code of conduct and dress code
- ✓ Focus to develop students as good human with all possible attributes of a successful leader
- ✓ Tranquil, pollution free and secure campus life



## OBJECTIVES

- ✓ To establish a prestigious academic institute for studies in different fields of engineering and technology for military and non-military students of home and abroad at graduate and post graduate levels
- ✓ To organize courses on military science, technology and management in various arena of interest
- ✓ To hold examinations and confer certificates of diplomas/degrees, other academic distinctions persons who have persuaded a course of study and have passed examinations conducted by the institute
- ✓ To confer research degrees, award fellowship, scholarship, exhibition, prizes, medals and honorary degrees to persons who have carried out research works under conditions as prescribed in the MIST regulations
- ✓ To establish teaching divisions (Div), departments, centres, faculties etc. and to make necessary arrangements for their maintenance/management/ administration
- ✓ To make provisions for advisory, research and consultation service including supervision, material testing and to enter into suitable agreement with any persons/ organizations for these purposes
- ✓ To co-operate with Universities/ Technical Institutions (both military and non-military) including memorandum of understanding (MoU) at home and abroad, in the manner and purpose as the institute may determine
- ✓ To do such other acts, related to above-mentioned objectives, as may be required in order to expand the objectives of the institute







## CAPABILITIES

- ✓ To conduct under-graduate programmes leading to B.Sc. Engineering Degrees in the following disciplines:
  - ❖ Civil Engineering (CE)
  - ❖ Computer Science and Engineering (CSE)
  - ❖ Electrical, Electronic and Communication Engineering (EECE)
  - ❖ Mechanical Engineering (ME)
  - ❖ Aeronautical Engineering (AE)
  - ❖ Naval Architecture and Marine Engineering (NAME)
  - ❖ Bachelor of Architecture (B. Arch)
  - ❖ Biomedical Engineering (BME)
  - ❖ Nuclear Science and Engineering (NSE)
- ❖ Environmental, Water Resources and Coastal Engineering (EWCE)
- ❖ Industrial and Production Engineering (IPE)
- ❖ Petroleum and Mining Engineering (PME)
- ✓ To conduct post graduate programmes (masters and PhD)
- ✓ To conduct diploma and certificate programmes in all the degree awarding disciplines
- ✓ To conduct research and professional advanced programmes / courses for Armed Forces in different fields of Military Science & Technology as requirement arises







## AFFILIATION

All academic programs of MIST are affiliated with Bangladesh University of Professionals (BUP). All examinations are conducted as per the schedule approved by the same university. BUP also approves the results and awards certificates amongst the qualified students.

## OUTCOME BASED EDUCATION (OBE)

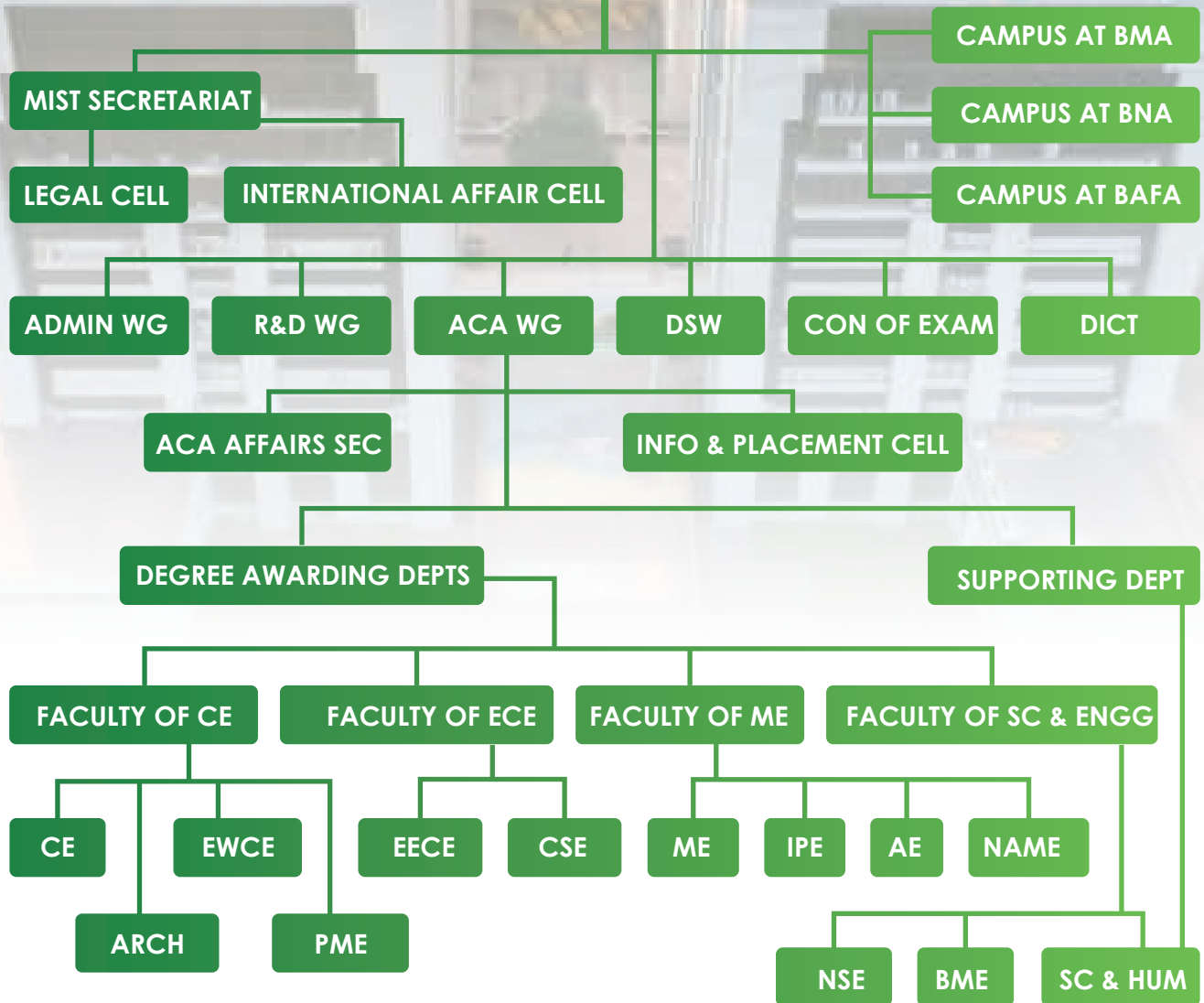
In its quest of reaching international level of accreditation, MIST has already adopted the Outcome Based Education (OBE) as per Washington Accord (An international accreditation agreement for professional engineering academic degrees between the bodies responsible for accreditation in its signatory countries, established in 1989, till date 20 countries are full signatories). Bangladesh represented by Board of Accreditation for Engineering and Technical Education (BAETE) has a provisional signatory status of Washington Accord. OBE is an educational theme based on each part of an educational system around goals (outcomes). By the end of the educational experience, each student should have achieved the goal. It is expected that graduates will be more relevant to industry and other stakeholders due to OBE system. Five programs of MIST, i.e. CE, EECE, ME, CSE and AE have already applied for accreditation as per OBE to BAETE. Process is going on. It is expected more than one program will get accreditation as per OBE system this year.



# ORGANOGRAM



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# FACULTIES AND DEPARTMENTS

At present MIST has 12 B.Sc Engineering Degree awarding departments under 04 Faculties.



## Faculty of Civil Engineering:

- ❖ Civil Engineering (CE)
- ❖ Architecture (Arch)
- ❖ Environmental, Water Resources and Coastal Engineering (EWCE)
- ❖ Petroleum and Mining Engineering (PME)



## Faculty of Electrical and Computer Engineering:

- ❖ Computer Science and Engineering (CSE)
- ❖ Electrical, Electronic and Communication Engineering (EECE)



## Faculty of Mechanical Engineering:

- ❖ Mechanical Engineering (ME)
- ❖ Aeronautical Engineering (AE)
- ❖ Naval Architecture and Marine Engineering (NAME)
- ❖ Industrial and Production Engineering (IPE)



## Faculty of Science and Engineering:

- ❖ Biomedical Engineering (BME)
- ❖ Nuclear Science and Engineering (NSE)
- ❖ Department of Science (Mathematics, Physics, Chemistry) and Humanities (Only Post Graduate)

# FACULTY OF CIVIL ENGINEERING





# Civil Engineering (CE) Department

The CE Department of MIST, standing on the four pillars of morale: fundamentals, innovation, excellence and advancements. It holds the glory of being the pioneer department of MIST. The department of CE produces next-generation top-notch engineers and leaders for the nation. Since its commencement in 1999 with only 40 military students, 983 students have graduated from this department. Presently 351 students are enrolled in the undergraduate program of this department. It is the first ever department of MIST to receive the accreditation from the Board of Accreditation for Engineering and Technical Education (BAETE) in 2008. This department has again pioneered the Post Graduate program by introducing the MSc/M.Engg and PhD in 2012 and 2013, respectively. This department is enriched with highly experienced and disciplined teaching staffs. At present, 36 faculties are serving in this department. This department highly promotes interactive learning and collective class-environment which help the students become more engrossed in employing themselves with the subject-matter and develop their depth of knowledge in engineering education. This department also contributes to the country's infrastructural development. Many important construction works, projects and professional vetting works in the field of structural, geotechnical, transportation and environmental engineering are carried out with the consultancy service of this department. All-in-all, within a very short span of time, the CE department of MIST has spread its outreach throughout the nation and is playing a vital role in building an ingenious society enriched with engineering transcendence and revolution.

With highly motivated faculty members, the research environment in the CE department is dynamic and collaborative. Expert members in their respective fields are playing key roles in developing students' knowledge and skills. With over 250 conference papers and 200 journal publications since 2020, students and faculties of CE department are actively present in the CE research arena, having a global footprint to include countries like the USA, Canada, Singapore, India to name a few. Besides, collaboration research with BUET-JIDPUS and many consultancy projects were done successfully. CE department signed MoU with WaterAid Bangladesh in 2015 for promoting urban rainwater harvesting and Ohio State University, USA in 2016 for the higher education program and joint research work. In February 2021, MIST signed MoU with Lakehead University, Canada.



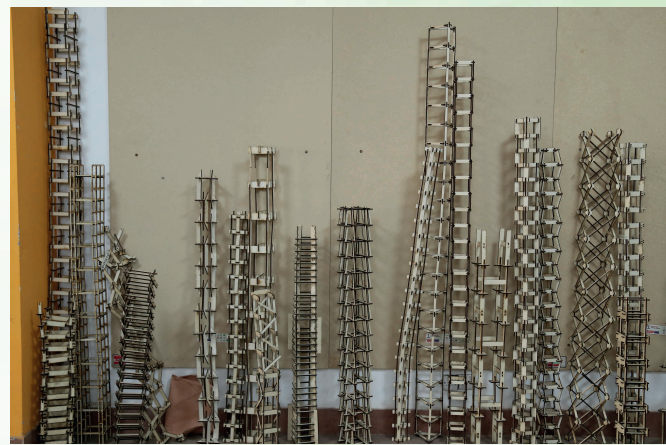


# Architecture (Arch) Department

The Department of Architecture in MIST started its journey in 2015. The department aims to educate and develop the future professional architects with high level of knowledge profile, technical competence, design skill and complex-problem solving ability steered by core values of critical thinking, intellectual curiosity, discipline and morality. In this respect, it offers a learning environment that involves the students to nurture their intellectual ability, expand the knowledge horizon, develop high technical competence and design skill that they can apply in education, profession and life.

Students can avail the facilities to work collaboratively with tutors, internal and external practitioners, theorists and designers in order to enhance their skills and build knowledge. The studios of the department are equipped with all modern amenities and the department is in the process of availing eight state of the art laboratories that includes Architectural Design Lab, Building Technology Lab, Photography & Digital Image Lab, Design Communication & Visualization Lab, Model Making Lab, Urban & Landscape Design Lab, Heritage Conservation & Rebuilding Lab and Environmental Design Lab. Along with the consistent academic activities, other co-curricular programs such as exhibition, seminar, design charrette, workshop, guest lecture, excursion etc. are arranged by the department regularly.

The department is equipped with highly qualified faculty. The faculty contains members with Doctorate and Masters titles from reputed foreign and local universities and a very good combination of experienced and young energetic members. Moreover, there is a very strong Advisory Committee that supports the department by monitoring and evaluating the academic activities regularly and helps to maintain the standard. The committee is comprised of renowned members from the academia, profession and concerned professional bodies. Industrial Training is organized by the department to get the students familiarized with the professional practice. This training program is also organized and monitored by the Industrial Advisory Committee which is composed of prominent architects as well as academicians.





# Environmental, Water Resources and Coastal Engineering (EWCE) Department

In line with the ongoing expansion policy of MIST, Environmental, Water Resources, and Coastal Engineering (EWCE) department is a newly introduced degree awarding department, starting its journey from January 2015 session. The department has currently initiated undergraduate degree program and subsequently will go for further enlarging its arena to post graduate degree programs. Concern about environment is a global issue and environmental issues related to large scale civil engineering projects need further special attention in order to minimize the adverse impact on surrounding environment. For Bangladesh, managing the vast water resources for its optimum benefit is vital for overall livelihood of the people. The long stretched coastal zones also offer excellent opportunities to extract maximum output. More so, the unique and dynamic nature of the coastal belt needs special study and extensive research for sustaining any future project along the coastal line. Combining all mentioned above, an all-embracing study and research work on water resources, costal zones and its relevancy on the overall environment is a call of the hour. Realizing this importance and with a view to contribute in uplifting the socio-economic condition of the country, MIST took the bold step to produce experts in these very specialized fields. It is expected that relevant and all-encompassing studies and researches by this newly introduced department will reduce much of the existing 'knowledge and understanding gap' in those fields.

This department is enriched with highly experienced and disciplined teaching staffs. This department promotes interactive learning and collective class-environment which helps the students become more engrossed in employing themselves with the subject-matter and develop their depth of knowledge in engineering education. In addition, the programs emphasizing on engineering science and design, provide students with ample opportunity to put their knowledge into practice by solving real-world problems under the guidance of our readily approachable faculty members. This department also contributes in the country's development projects. All-in-all, within a very short span of time, the EWCE department of MIST has spread its outreach throughout the nation and is playing a vital role in building an ingenious society enriched with engineering transcendence and revolution.





# Petroleum and Mining Engineering (PME) Department

The Department of Petroleum and Mining Engineering (PME) offers Bachelor of Science in Petroleum and Mining Engineering which is one of the top university level programs among the engineering universities in Bangladesh. The Department of Petroleum and Mining Engineering started its academic work from 3 February 2016 with the objective to produce qualified personnel in the field of Petroleum and Mining Engineering.

The mission of the department of Petroleum and Mining Engineering is to guide all efforts aiming to build, sustain, incorporate, convey and apply Petroleum and Mining Engineering knowledge, and to augment the human resources of these disciplines and thus to ensure an energy-secure future for the nation, that balances environmental impact and affordable energy supply. It aims to foster an environment in which students learn to think, conduct, research, apply knowledge and achieve success in a diverse and changing global economy, and to guide the students to develop themselves as professionals with high ethical and moral values.



To fulfill this mission, the PME department is committed to pursue excellence in Reservoir Engineering, Production Engineering, Well Drilling and Completions, Integrated Reservoir Characterization, Fit-for-purpose Reservoir Management Techniques, Rock Mechanics, Mining System, Mine Instrumentation and Machineries, Minerals Processing, Mining Survey, Mine Ventilation and Environmental Engineering considering sustainable resource engineering.

The department of Petroleum and Mining Engineering intends to be nationally and internationally recognized through education and research programs in both Petroleum and Mining discipline. The vision is to enrich national and global energy industry by applying fundamental engineering and scientific knowledge accompanied by latest innovation into industry applications.





# FACULTY OF ELECTRICAL AND COMPUTER ENGINEERING



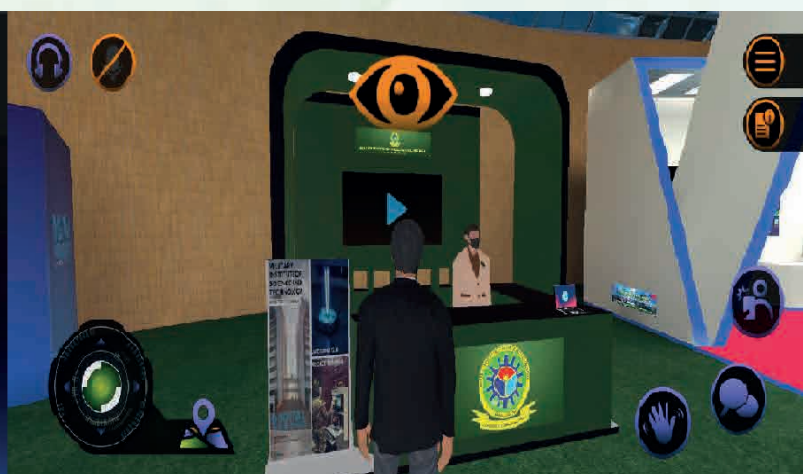
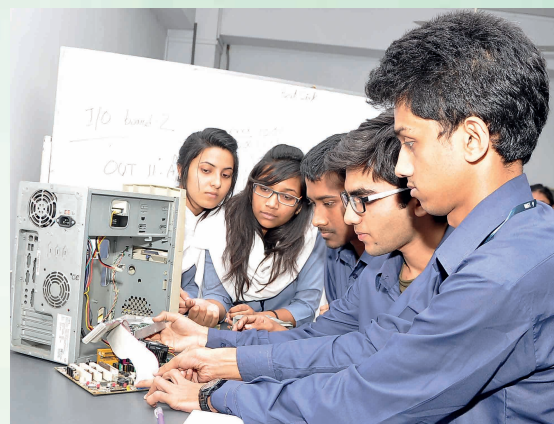


# Computer Science and Engineering (CSE) Department

Department of Computer Science & Engineering (CSE) was established in the academic session 2000-2001 as CSIT. From a modest beginning, offering undergraduate B.Sc program to only military students, the dept has now evolved as one of the largest departments at MIST. The department of CSE now offers B.Sc program at the undergraduate level, M.Sc, M.Engg, and doctorate in philosophy (PhD) degree at the post graduate level.

The department boasts of highly qualified faculties, along with state of the art learning infrastructure which provides an ideal platform for students to hone in their skills in the field of computer science. The department provides an ideal environment for the students to specialize in contemporary fields of Computer Science including Artificial Intelligence, Robotics, Machine Learning, Computer Vision and Pattern Recognition, Data Analytics, Network & Data Security to name a few. The department also collaborates with both the industry and Government departments and agencies to establish a leadership for both stake holders which are especially beneficial for students.

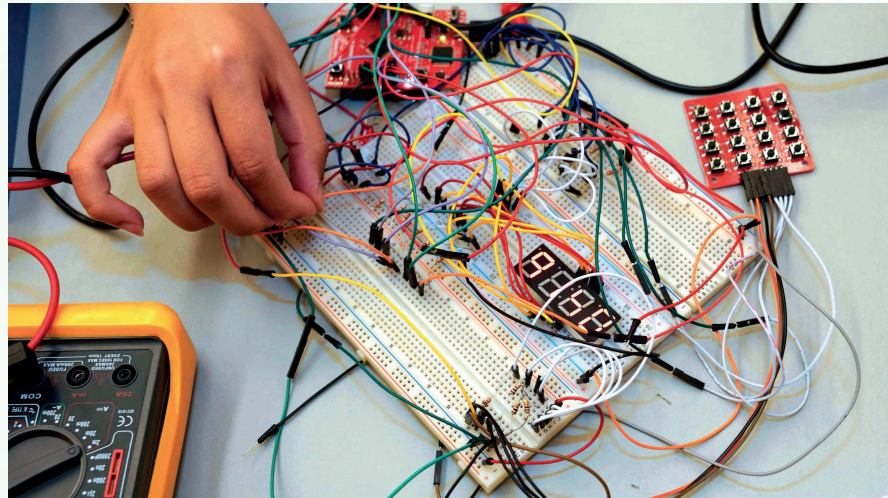
The department of CSE draws its strength from the experienced pool of highly professional faculties. The faculties are drawn in from diverse nationalities, diverse prior professional exposure (Military, Industry, Academia), diverse educational qualification and background and thus provide large areas of expertise for students to benefit. Based on requirements, domain specialists are also drawn from other educational institutes like BUET and also from the industry.





# Electrical, Electronic and Communication Engineering (EECE) Department

The foundation of EECE department was laid in 2003. It is functioning under the faculty of Electrical and Computer Engineering. The department is offering both undergraduate and postgraduate programs on M.Sc., M Engg and PhD. The department is subdivided into three major areas: Power, Electronics and Communication in the graduate and undergraduate curriculum. At present this department is served by a group of competent, qualified faculty members along with several renowned professors from BUET as guest faculty. Around 281 undergraduate and 156 postgraduate students are currently studying in the department. The department offers a diverse educational experience with a focus on traditional areas as well as emerging areas. The faculty members are always engaged in numerous research areas including satellite navigation space engineering, VLSI, optoelectronics, properties of materials, compound semiconductor devices, radar detection and tracking, optical fiber communication, free space optical communication, wired and wireless communication, renewable energy and thin film technology. At present, there are 35 faculty members in the department. The department frequently arranges international conferences, seminars and project competitions to enhance the knowledge of the students. The students of this department participate in various national and international competitions throughout the year. Under this department, MIST Robotics Club (MRC) and IEEE Student Branch are performing in the national and international platform. The department got accreditation from BAETE in September 2010. Post graduate program under this department has started functioning since October 2013.





# FACULTY OF MECHANICAL ENGINEERING





# Mechanical Engineering (ME) Department

Mechanical Engineering Department of MIST has commenced its journey since January 2003. Till now 849 students have graduated & serving the nation with great excellence.

Department of Mechanical Engineering aims to provide high quality Mechanical Engineering education and contribute to the era of 4th Industrial Revolution.

A long list of advanced courses has been added through regular review of the process to keep pace with dynamic technologies.

The faculty of Mechanical Engineering Department are also involved in a wide range of projects in order to provide feasible solution to industrial problem and establish an integrated relation between theoretical & practical knowledge.

Besides academic activities, students of this department are regularly participating in various robotics, engineering, sports and cultural competitions as part of co and extra-curricular activities with great success & uplifting the glory of department.





# Aeronautical Engineering (AE) Department

Aeronautical Engineering (AE) department of MIST started its journey from 1st February 2009. The department is currently offering B.Sc, M.Sc and PhD in AE program. The aim of AE Department is to provide students with knowledge in the areas of Aerodynamics, Aerospace Propulsion, Aircraft Loading & Structural Analysis, Aerospace Vehicle Design, Space Engineering, Advance Aerospace Technology and Avionics. The department is organized into two major divisions: Aerospace and Avionics. There are total 181 students in AE department including overseas students from different countries like Palestine, Maldives and Nepal. Currently the department is running its 13th batch with successful graduation of 9 batches of 493 students. Total 23 faculty members are serving in this department. Out of them, 02 faculty members are from Indian Air Force.

Graduates of AE department are serving both in National and International arenas. A significant number of graduates are pursuing higher studies abroad in USA, Europe, Canada and other countries. In professional fields, AE Graduates are employed in Airlines, Corporate Sector, Public Sector and Armed Forces. The Alumni body of the department; "AE Alumni Society" is active in promoting career and future opportunities for AE graduates.

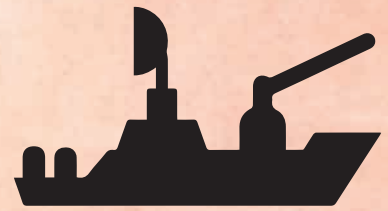
AE department has participated in many International and National competitions and achieved praise-worthy results. Mentionable are NASA Lunabotics Mining Competition (USA), DBF Competition (USA), SAE Aero-design competition (USA), Future Flight Design (FFD). Aeronautical Engineering Department of MIST has organized 1st National Aero Design Competition in 2014 which is a milestone in the Aviation Landscape in Bangladesh. The Department has also organized workshops and short courses to enlighten the interested people from diverse backgrounds about different aspects of Aeronautical Engineering.

The Board of Accreditation for Engineering & Technical Education (BAETE) approved Aeronautical Engineering program of MIST in 2016. AE Department has already signed an MoU with Biman Bangladesh airlines. The department is in the process of concluding MOU with Civil Aviation Authority of Bangladesh (CAAB), US Bangla airlines, SPARSO, Beijing University of Aeronautics and Astronautics (China) and other universities/organizations at home and abroad for the improvement of its academic capabilities.





# Naval Architecture and Marine Engineering (NAME) Department

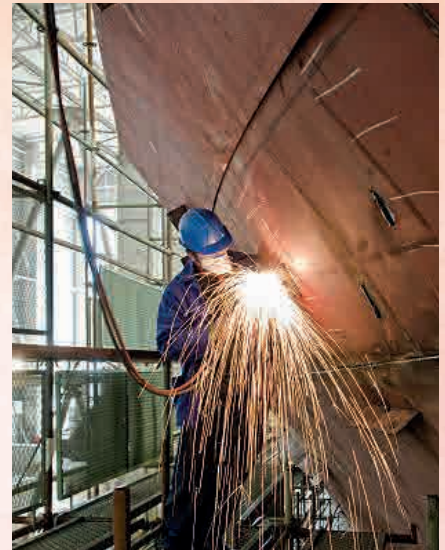


Divine blessings of 1,10,000 sq km exclusive economic zone, 712 km coast lines and 700 rivers necessitate Bangladesh to have close relation to shipping and shipbuilding. Moreover, the government of Bangladesh has declared shipbuilding as "The Thrust" sector for national economic development and industrialization. Thus, with the aim to produce human resources qualified with design, construction, repair and maintenance of ships and offshore structures, Department of Naval Architecture and Marine Engineering at MIST started its journey with undergraduate program in the academic session 2012-2013. The department has also started postgraduate program i.e. M.Sc. (Engg), M. Engg, and Ph.D. from the year 2019-2020.

Graduates in this field of study have actually dual degrees. In one way these graduates are naval architects and another way they are marine engineers. Curriculum of the department provides insight to design, to

build, to operate and to maintain vessels which move just above, on or under the sea. These include tankers, container ships, passenger ferries, battleships, aircraft carriers, submarines, drilling platforms, hovercraft, yachts, and many other kinds of vessels.

So far total 188 students graduated from NAME department. Due to versatility of the field of study, the graduates could successfully grab the opportunity of wide range of employment and research at home and abroad. A good number of graduates of this department are working in various government and private organizations. like; Bangladesh Shipping Corporation (BSC), Bangladesh Inland Water Transport Authority (BIWTA), Department of Shipping (DOS), Various port authorities, shipyards etc.





# Industrial and Production Engineering (IPE) Department

Industrial and Production Engineering (IPE) department has been established in 2016 under the faculty of Mechanical Engineering to develop much needed professionals required for the growth of modern industries. The focus of the undergraduate program in IPE is manufacturing, quality, process design, productivity improvement and management to meet the emerging technical needs of the modern industries. Education in IPE is very much leaned to practical situations as such the relationship of the department with the industries will be strengthened through their involvement in curriculum development and various programs like seminars, visits and student projects. The department of IPE aims not only to produce efficient engineers, but also well-educated conscientious leaders who can contribute to the development of the country through ameliorating our industries.

The cogitated and improvised under-graduate course of Industrial and Production Engineering emphasizes on manufacturing and improvement of productivity, thus students will learn trends of dynamics and control and hence develop a sound knowledge about overall industrial production and management. They will also learn to analyze the emerging technical trends of the industry.





# FACULTY OF SCIENCE AND ENGINEERING

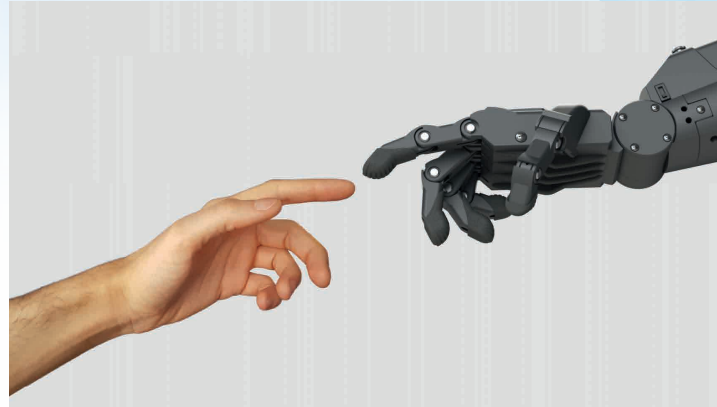
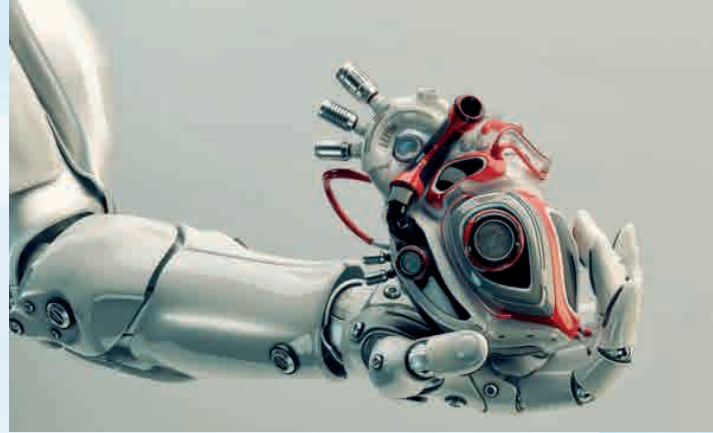


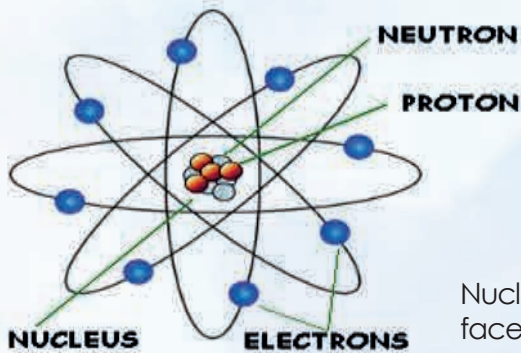


# Biomedical Engineering (BME) Department

The Department of Biomedical Engineering began its journey in February 2015, with the first undergrad Biomedical Engineers in Bangladesh. BME aims to improve human health by applying engineering principles and methods to medical problems. With the high demand for Biomedical Engineering in the country and abroad, students have versatile means for career development after completing the degree. Today, biomedical engineers are employed in industry, hospitals, research and development labs, government regulatory agencies, etc. Life-saving devices like cardiac pacemakers, defibrillators, artificial kidneys, blood oxygenators, prosthetic hearts, and implants, etc., along with the commonly known medical equipment as CAT, PET, MRI, functional NMR, potential mapping, CT scan, X-ray machine, etc. all are the products of this discipline.

The undergraduate program in BME provides a strong foundation in the basic sciences, mathematics, engineering, and life sciences. With eight new state-of-the-art laboratories in the new tower building of MIST, the program offers the choice of specialization in one of the four tracks: Instrumentation, Regenerative Medicine, Imaging, and Biomechanics and Rehabilitation Engineering. This field of Biomedical Engineering seeks to close the gap between engineering and medicine, combining the plan and problem-solving aptitudes of designing with medical and biological sciences to develop healthcare treatment, including diagnosis, observing, and therapy.





# Nuclear Science and Engineering (NSE) Department

Nuclear Science and Engineering will play an important role to face the challenges of 21st century and to promote Bangladesh as per the vision of the government. Now a days, Bangladesh is marching gradually to incorporate the uses of nuclear technology in producing power, medicine, industrial and agricultural products etc. From Bangladesh perspective, professionals to take care of the nuclear infrastructure, equipment and material like nuclear power plant, nuclear fuel and other radioactive materials especially for power generation and healthcare diagnostics and to integrate the latest technology effectively for quality citizen services were a long-felt necessity. Therefore, establishment of this nuclear education is an effort that meets the demand of time.

A major goal of the Nuclear Science and Engineering (NSE) Department is to advance the core disciplines needed to achieve new, beneficial applications of nuclear science and technology. Our students will study modern nuclear techniques which will find applications in medical imaging, radiation-based therapy, contraband detection and nuclear security and safeguards. In near future, our nuclear engineers/nuclear scientists will be employed in nuclear power plants, other power industries, nuclear medicine centers, research facilities, government regulatory agencies in our country as well as around the globe.

Keeping these perspectives in mind, NSE Department was established in 2014 and the first academic session started on 5th February 2015 at Military Institute of Science and Technology (MIST). There were 40 undergraduate students in the maiden batch. NSE Dept. has also started MSc, MEngg and PhD program from October 2015 session.

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# Science and Humanities (Sc & Hum) Department

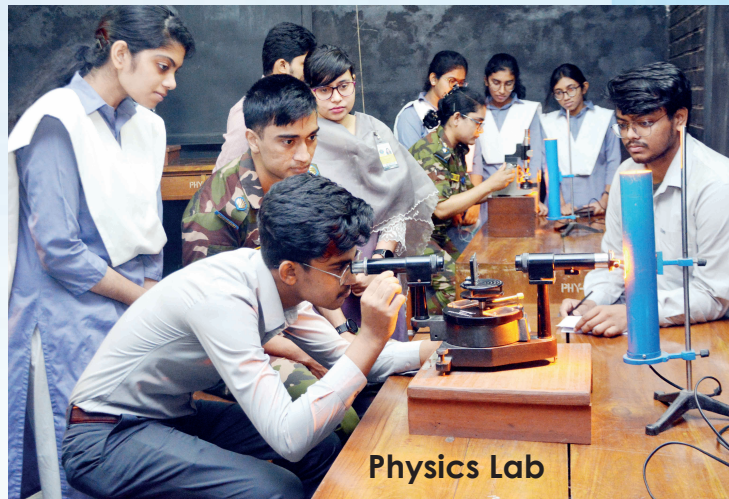
Department of Science and Humanities has started its journey from 19 April 1998 with the inception of MIST. From the beginning, this department has always been playing a pivotal role in laying the foundation of science and humanities for the potential engineers. This department basically provides the relevant fundamental undergraduate courses required for engineering education. Besides undergraduate program, M. Phil program in Mathematics, Physics and Chemistry has been offered since the October 2014 session.

## **The mission of the Department of Science and Humanities is:**

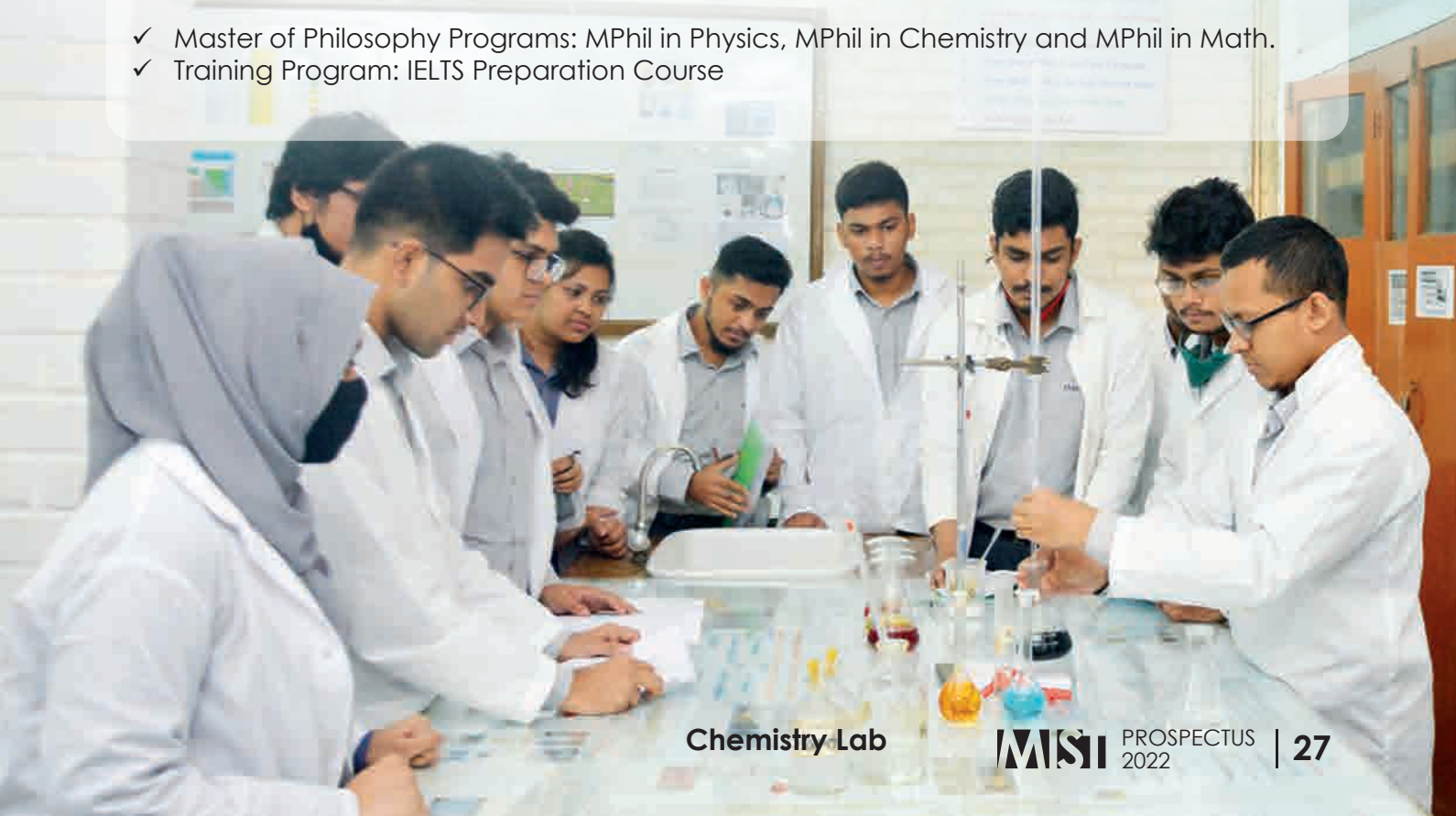
- ✓ to provide the fundamental knowledge in applied science required to strengthen the backbone of all Engineering Departments of MIST.
- ✓ to develop a teaching-learning environment for exploring basic science and its application in the field of engineering and technology.
- ✓ to facilitate research work for the development in the field of science and engineering by providing fundamental knowledge on economics, accounting and sociology to apprehend ethical aspects of engineering education.
- ✓ to strengthen English communication skills of engineering students.

## **Programs offered by Department of Science and Humanities:**

- ✓ Master of Philosophy Programs: MPhil in Physics, MPhil in Chemistry and MPhil in Math.
- ✓ Training Program: IELTS Preparation Course



Physics Lab



Chemistry Lab



## Council of MIST

### Chairman:

Honourable Minister, Ministry of Education, Government of the People's Republic of Bangladesh

### Vice Chairmen:

Chief of Army Staff, Bangladesh Army  
Chief of Naval Staff, Bangladesh Navy  
Chief of Air Staff, Bangladesh Air Force

### Members:

- Principal Staff Officer, Armed Forces Division (AFD)
- Secretary, Ministry of Defence (MOD)
- Vice Chancellor (VC), Bangladesh University of Professionals (BUP)
- Engineer in Chief (E in C), Army Headquarters (AHQ)
- Commandant, MIST
- Commandant, Bangladesh Military Academy (BMA)
- Commandant, Bangladesh Naval Academy (BNA)
- Commandant, Bangladesh Air Force Academy (BAFA)
- Representative of the VC (Prof eqvt), Faculty of Science, Dhaka University (DU)
- Representative of the VC (Prof eqvt), Bangladesh University of Engineering and Technology (BUET)
- All Deans of Faculty (CE, ECE, ME, and Sc & Engg), MIST
- Representative of the Ministry of Education
- Representative of the Ministry of Finance
- Representative of the Ministry of Science and Technology

### Secretary:

Colonel Staff, MIST





## Governing Body of MIST

### Chairman:

E in C, Bangladesh Army / Commandant, MIST (As per seniority)

### Vice Chairman:

E in C, Bangladesh Army / Commandant, MIST (As per seniority)

### Members:

- Representative of the VC, Faculty of Science, DU
- Representative of the VC, BUET
- Representative of the VC, BUP
- Dean / Senior Instructor appointed by Commandant BMA / Commandant MIST
- Dean / Senior Instructor appointed by Commandant BNA / Commandant MIST
- Dean / Senior Instructor appointed by Commandant BAFA / Commandant MIST
- Director General, Training Directorate, AFD
- Director, Military Training, Bangladesh Army
- Director, Naval Training, Bangladesh Navy
- Director, Air Training, Bangladesh Air Force
- All Deans of Faculty (CE, ECE, ME, and Sc & Engg), MIST
- Director, Research & Development (R&D), MIST
- Director Administration, MIST
- Representative of MOD
- Representative of Ministry of Education
- Representative of Ministry of Finance
- Representative of Ministry of Post, Telecommunication and Information Technology

### Member Secretary:

Colonel Staff, MIST



## Academic Council of MIST

### Chairman:

Commandant, MIST

### Members:

- Representative of the VC, Faculty of Science, DU
- Representative of the VC of BUET
- Representative of the VC of BUP
- All Deans of Faculty (CE, ECE, ME, and Sc & Engg), MIST
- Representative of Commandant, Engineering Faculty, BMA
- Representative of Commandant, Engineering Faculty, BNA
- Representative of Commandant, Engineering Faculty, BAFA
- Director, Research & Development (R&D), MIST
- Heads of all Departments, MIST
- Colonel Staff, MIST
- Controller of Exam, MIST
- One professor from each faculty, MIST (nominated by faculty dean)
- Representative of Training Directorate, AFD
- Representative of Military Training Directorate, AHQ
- Representative of Naval Training Directorate, NHQ
- Representative of Air Training Directorate, Air HQ
- Representative of MOD
- Representative of Ministry of Education

### Member Secretary:

General Staff Officer Grade-1 (Academic), MIST



## DIRECTORATE OF STUDENTS' WELFARE (DSW)

1. The Directorate of Students' Welfare (DSW) began its journey from 15 June 2016 with the vision of excellence in the provision of administrative leadership and counseling services to students at the Institute; and the promotion of educational and administrative support to all structures of the Institute. The mission of this wing is to provide leadership, social, extracurricular and academic counseling programmes to all students. The Department of Student Welfare also seeks to challenge students to become responsible and productive citizens of the society and to support the Institute's educational and administrative goals. DSW wing currently offers various opportunities to the students of MIST to enhance their cognitive skills and overall knowledge via arranging different competitions, seminars, workshops and career advisory programmes.
2. With its excellent professional competency, DSW wing is working relentlessly for the welfare of the students. Additionally, DSW wing also facilitates necessary financial aid to the students by processing stipends in different categories. As such, many students have been able to continue incessant study at MIST. Moreover, DSW wing also patronizes all the clubs run by the students and monitors their activities for attending the creativity among the students. One of the most important activities of the DSW wing is mentoring Alumni activities. Furthermore, DSW wing is always open to all students of MIST regarding any difficulties at any time.

### 3. Facilities providing by DSW Wing

**a. Stipend.** MIST provides stipend facilities to the students. Other than level 1, students of all levels have the opportunity to apply for stipend based on their academic result and financial condition. To render educational support to the students for their uninterrupted study, parents' economic condition is assessed under 17 different categories. A board of officers headed by the director of the students' welfare select the students and the percentage of stipend.

**b. Counseling Service.** MIST has counseling service for the students under a qualified and professional counselor. The counselor of DSW wing works actively with the students and uses a variety of skilled interventions and thereby offers both psychological and emotional support. It helps the students to develop insight into their situation and helps them build better personal resources with greater resilience. Besides the particular cases, online workshop sessions are conducted on mental health related issues for the students where they are benefitted by developing practical skills like assertiveness, relaxation techniques and resilience building.





**c. MIST Student Welfare Fund.** MIST has a Student Welfare Fund which operates with the objective of making financial assistance available for meeting the welfare needs of the students. The elected captains among the students run the welfare fund which is monitored by the DSW wing. The sources of the student welfare fund are:

- (1) Voluntary contribution from the students
- (2) Contribution from the alumni
- (3) Contribution from the MIST authority and Faculty
- (4) Voluntary contribution from other sources

The DR's shall discuss and decides upon the applications submitted by the student seeking financial support from Students Welfare Fund which will be finally approved by the director of DSW wing.

**d. Club Facilities and Campus Hour.** MIST offers 12 different clubs for the students to join and get the opportunity to show their creativity. This also gives a breathing space to the students from monotonous study. Students have the freedom to select and join more than one club from the following categories. To add variety and flavor, students of all levels also organize campus hour at regular intervals.

- (1) MIST Computer Club
- (2) MIST Career Club
- (3) MIST Debating Society
- (4) MIST Drama and Film Society Club
- (5) MIST Einthoven Club
- (6) MIST Innovation Club
- (7) MIST Aeronautics & Astronautics Club
- (8) MIST Environmental Club
- (9) MIST Literature and Cultural Club
- (10) MIST Photographic Society
- (11) MIST Robotics Club
- (12) MOTO MIST Automotive Club
- (13) MIST Readers Club

**e. Osmany Hall.** MIST provides a good environment and facility of residence for the students who are from different parts of the country and abroad at bare minimum expense. At this moment MIST has an enthralling hall named "Osmany Hall". The eight-story reinforced concrete facility has a male and a female





complex where 524 male and female students can be accommodated. The Male Wing has one extension accommodating 110 students, in total 634 students (male and female) can be housed at the residential facilities of Osmany Hall.

- f. **Sports Facilities.** Sports help to develop physical fitness and mental well-being. MIST motivates and facilitates students both in indoor and outdoor sports. The institute has well equipped facilities for both indoor and outdoor games, like Cricket, Football, Basketball, Table Tennis, Chess, Carrom etc. Every year the institute hosts Inter Departments Basketball, Football, Volleyball and Cricket Competition. Sports refresh minds, as a result, students can concentrate and focus on education in a sound mind.
- g. **Record Cell.** MIST was established in 1998 and DSW wing started its operation in 2016. The need for a record cell has been observed since the beginning of DSW wing operation. As a result, the activities of the record cell started in 2021. All the information and discipline related issues of all the students of MIST are preserved here. Testimonial/character certificate is issued from DSW wing.
- h. **Placement Centre.** Every year MIST organizes fairs for its students for job prospects. The Department of Students' Welfare oversees these events as part of career counseling. This ceremony is held every year at the time of graduation. At these events, representatives of various national and international organizations come to collect the students' CVs and take the written test / Viva according to their recruitment policy. While these events are primarily focused on graduating students, other students are also benefited in this regard.

DSW Wing is planning to start "Placement Center" which will assist suitable employment for the students. The center serves to bring together graduate students and recruiters who might not normally have a connection. The office makes every effort to ensure that eligible students and alumni are provided with career opportunities that best suit their needs and skills.









## FACILITIES AND SERVICES

**Class Room** MIST has adequate number of air conditioned classroom with multimedia facilities.

**Accommodation** MIST, in principle is a residential institute. The residential hall with all modern facilities is named 'Osmany Hall' can accommodate 935 students (male 551 and female 384). Each room has internet facilities. Students are provided with well-furnished accommodation.

**Library** MIST has a well-arranged library enriched with books and a good number of periodicals, journals and magazines from home and abroad. It also subscribes a number of Bengali and English newspapers, periodicals and e-journals. Library has cyber cafe with Wi-Fi facilities. In addition to that each department has its own library enriched with adequate text and reference books.

**Medical Support** MIST Medical Centre has residential physician, medical staff and equipment. MIST Medical centre provides required medicine and other necessary support as prescribed by the Medical Officer. Civil students are sent to Kurmitola General Hospital for better treatment.

**Transport MIST** provides bus services for the students. The buses move in nine routes: MIST to Shahbag, MIST to Abdullahpur, MIST to Azimpur and MIST to Dhaka Cantonment (Jahangir Gate). A student is charged with 1500 BDT per year as transport charge.

**MIST IT Centre** IT Centre provides internet browsing facilities to students and faculties.

**Cafeteria** Cafeteria provides different types of cuisine at reasonable price.

**Fitness Centre** Fitness Centre provides ample opportunities for the students to keep their body and mind fit.

**Sports and Recreation** MIST has adequate facilities for both indoor and outdoor games including table tennis, badminton, football, and cricket. Students can also enjoy a wide variety of athletic pursuits. Besides picnics and cultural competition, celebration of national days are also arranged regularly in a befitting manner.





**MIST Career Club** MIST career club was established in June 2016. Each year it organizes career festival in collaboration with different institutions and organizations. Last year MIST Career Fest was held on 13th August 2016 with the assistance of BD jobs.com.

**MIST Innovation Club** With the noble purpose of branding MIST in the field of advanced science and technology in Bangladesh, MIST Innovation Club (MIC) has commenced its journey on 12 February 2020. This club thrives to create a platform to inspire the students of MIST in achieving technical and also soft skills to build innovative products or solutions that will represent MIST to the nation. Our eminent maxim is to "Innovate to Serve".

**MIST Photographic Society** MIST photographic society "FOCUS" started its journey in April 2015. It organizes workshop, seminar, exhibition and short course on photography etc. periodically.

**MIST Drama and Film Club** To promote the art and culture of Bengali heritage, MIST Drama Club was initiated in 2015. It organizes different types of Drama on various occasions.

**MIST Literature & Cultural Club** MIST Literature and Cultural Club was formed in 2014 to create various opportunities to practice art and culture via organizing various workshops, events etc. MIST Literature and Cultural Club believes technology and creativity do not contradict each other, rather both of them contribute to proper manifestation of a student. To uphold this belief, MIST Literature and Cultural Club has gloriously trodden its way far by inspiring and involving the students.

**MIST Computer Club** Computer Club arranges various workshops and competitions regarding different programming languages and also conducts club activities on regular basis.

**MIST Aeronautic and Astronautic Club** MIST Aeronautic and Astronautic Club is supervised by the Department of Aeronautical Engineering. Its aim is to widen the knowledge of the enthusiastic students of MIST.

**MIST Einthoven Club** MIST Einthoven Club is supervised by the Department of Biomedical Engineering which aims to broaden the knowledge of its members about recent development and resources around the globe on Biomedical Engineering.





**MIST Automobile Club** MIST Automobile Club is supervised by the Department of Mechanical Engineering which holds various workshops and club activities regularly.

**MIST Environmental Club** MIST Environmental Club is supervised by the Department of EWCE which aims to keep its member up to date regarding recent technologies and innovation on Environmental Engineering.

**MIST Robotics Club** MIST Robotics club was established in the year 2015 under the guidance of EECE department. To cope with the technological advancement MIST Robotics Club provides opportunity to the students to explore their innovative ideas on activities. It organizes Robotics workshop and competition every year. It also organizes the Robolution competition which is the largest robotics competition in Bangladesh.

**Hydraulic Pump Testing Bench** The “Hydraulic Pump Testing Bench” was inaugurated on 24 May 2016. This Testing Bench is one of the landmark establishments of MIST in the path of research and project work.

**Automotive Engineering Equipment Testing Centre** The “Automotive Engineering Equipment Testing Centre” provides the technological support in the field of research and project work. It also provides necessary technical support to different government and non-government organizations regarding approval of motor vehicles and other tests.

**Computer Repair and Maintenance Centre** The “Computer Repair and Maintenance Centre” was inaugurated on 01 December 2013. Since then, it is providing necessary services through repairing and maintaining the defective computer and accessories.

**Centre for Energy, Environment Studies and Research (CEESR)** The “Centre for Energy and Environmental Studies” of MIST is under the auspices of the department of EECE which is engaged in education, research, and professional training in the fields of energy and environmental analysis. The perspective of the centre is multi-disciplinary and problem-oriented.

**Captaincy** To promote leadership qualities among the students MIST Captain in various categories are elected from the students, namely MIST Captain, MIST Cultural Captain, MIST Debate Captain and MIST Sports Captain. Besides these, department captains of same categories and class captains are also elected for smooth functioning of students' activities.





**Environment and Climate Change Studies Centre** Climate change has become a burning issue for sustainable development. To contribute in capacity building and develop an appropriate technology, CE Department has incorporated environmental engineering in its post graduate program. A Research Centre named “Environment and Climate Change Studies Centre” is facilitating research work on this issue.

**Centre for Disaster Management Studies** Bangladesh is a disaster prone country. To provide quality human resources and facilitate disaster related research work for Disaster Management in Bangladesh a research centre named “Centre for Disaster Management Studies” under CE Department is functioning.

**Inauguration Ceremony** Each year launching ceremony of academic session is arranged for apprising new students regarding the salient aspects of MIST activities. MIST welcomes all the young engineering students including their guardians in this ceremony. There are interactive sessions for the guardians with MIST authority and orientation with MIST campus. All the students of level-1 in different disciplines (both military and civil) join the ceremony.

**Graduation Dinner** MIST organizes graduation dinner in honour of the outgoing students. Newly graduates from MIST attend this program after successful completion of their graduation from MIST. Students of level-4, all faculties and staff officers also join the dinner.

**Collaboration with Other Universities** For expanding research capability including undertaking of faculty-students exchange program MIST has signed Memorandum of Understanding (MoU) with numbers of organizations and universities both in home and abroad. Few notables are: Mershon Center For International Security Studies and The School of Earth Sciences, The Ohio State University (OSU), Columbus, Ohio, United States, The Institute of Water Modelling (IWM) Bangladesh, University of Malaya (UM), Stamford University Bangladesh, Port City International University, Institute of Information Technology (IIT) & Jahangirnagar University (JU), International Islamic University Malaysia (IIUM), University Kebangsaan Malaysia (UKM), University Tenaga Nasional (UNITEN), Kotelawala Defence University (KDU) Srilanka, United States Naval Academy (USNA), University Technology Mara (UTM), Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh, Indian Institute of Engineering Science & Technology (IIST) India, etc.



**Academic Collaboration of University of Lincoln and London Metropolitan University with MIST**



## MoU

MIST has established Memorandum of Understanding with numbers of universities in home and abroad. The universities are as follows:

| Ser | University/Institution                                                                                          | Year | Remark                               |
|-----|-----------------------------------------------------------------------------------------------------------------|------|--------------------------------------|
| 1.  | Two Faculties from Indian Air Force are under Faculty Exchange Program, India                                   | 2009 | MoU is completed                     |
| 2.  | PLA (People's Liberation Army) University of Science and Technology (Nanjing), China                            | 2012 | MoU is completed                     |
| 3.  | Water-Aid Bangladesh- for Rainwater Harvesting System, Bangladesh                                               | 2013 | MoU is completed                     |
| 4.  | United States Naval Academy- for exchanging faculty and Joint Research Program, USA                             | 2013 | MoU is completed                     |
| 5.  | United States Naval Academy (USNA), Annapolis, USA                                                              | 2014 | MoU is completed                     |
| 6.  | General Sir Kotelewala Defence University, Sri Lanka                                                            | 2014 | MoU is completed                     |
| 7.  | Stamford University Bangladesh                                                                                  | 2014 | MoU is completed                     |
| 8.  | Port City International University, Bangladesh                                                                  | 2014 | MoU is completed                     |
| 9.  | University Kebangsaan Malaysia (UKM)                                                                            | 2014 | MoU is completed                     |
| 10. | Institute of Information Technology (IIT) & Jahangirnagar University (JU), India                                | 2014 | MoU is completed                     |
| 11. | University Technology Malaysia (UTM), Malaysia                                                                  | 2014 | MoU is completed                     |
| 12. | International Islamic University Malaysia (IIUM)                                                                | 2014 | Letter of Collaboration is Completed |
| 13. | The Ohio State University, Columbus, Ohio, United States                                                        | 2015 | MoU is completed                     |
| 14. | Dockyard & Engineering Works Ltd, Sonakanda, Bandar, Narayanganj, Bangladesh                                    | 2015 | MoU is completed                     |
| 15. | University Technology Mara (UITM), Malaysia                                                                     | 2015 | MoU is completed                     |
| 16. | University of Malaya, Malaysia                                                                                  | 2015 | MoU is completed                     |
| 17. | Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh                                               | 2015 | MoU is completed                     |
| 18. | Active Fine Chemicals, Bangladesh                                                                               | 2015 | MoU is completed                     |
| 19. | Biman Bangladesh Airlines, Bangladesh                                                                           | 2015 | MoU is completed                     |
| 20. | ICT Division, Ministry of Post & Telecommunications & Information technology, Bangladesh                        | 2015 | MoU is completed                     |
| 21. | Indian Institute of Engineering Science & Technology (IIST), Shibpur, India                                     | 2015 | MoU is completed                     |
| 22. | Gono Bishwabidyalay, Bangladesh                                                                                 | 2016 | MoU is completed                     |
| 23. | Global Institute of Science and Technology (GIST), Australia                                                    | 2016 | MoU is completed                     |
| 24. | Rosatom Technical Academy Russian Federation, Russia                                                            | 2018 | MoU is completed                     |
| 25. | Defence Institute of Advanced Technology (DIAT), India                                                          | 2019 | MoU is completed                     |
| 26. | Academic Collaboration between MIST and University of Lincoln, and MIST and UK & London Metropolitan University | 2021 | Letter of Collaboration is Done      |
| 27. | Mou Signing Ceremony Between Mist & Jhrml                                                                       | 2021 | MoU is completed                     |



## SEMINARS

Following are the seminars conducted by various departments of MIST from 2016 to 2021

| Ser | Seminars                                                                                                                                                              | Organizing Department |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 1.  | 1st Regional Seminar on Climate Change, Water Security and prospects of Rainwater in Bangladesh                                                                       | CE                    |
| 2.  | Seismic Performance Assessment and Design of Structures                                                                                                               | CE                    |
| 3.  | Building Construction and Structural safety                                                                                                                           | CE                    |
| 4.  | Building Construction and quality control                                                                                                                             | CE                    |
| 5.  | Seminar on "Landslide and Ground Movement Effects on Onshore and Offshore Structure"                                                                                  | CE                    |
| 6.  | Seminar on "Seismic Design of Structure-ASCE-7"                                                                                                                       | CE                    |
| 7.  | Seminar on "Scope and Challenges of Higher Studies in Top Universities of World".                                                                                     | CE                    |
| 8.  | Seminar on campus activation plan by ethics advanced technology ltd (EATL)"                                                                                           | CSE                   |
| 9.  | Seminar on Cloud Computing, GNSS (Global Navigation Satellite System) and Campaigning on EATL (Ethics Advanced Technology Limited) Prothom Alo Apps Contest 2016      | CSE                   |
| 10. | Seminar on Internet of Things (IoT) and Telecom Regulatory Environment in Bangladesh                                                                                  | CSE                   |
| 11. | Seminar on Internet of Things (IoT)                                                                                                                                   | CSE                   |
| 12. | Cyber Security Seminar - 2019                                                                                                                                         | CSE                   |
| 13. | MIST Inter University Programming Contest (IUPC) 2018                                                                                                                 | CSE                   |
| 14. | MIST Inter University Programming Contest (IUPC) 2019                                                                                                                 | CSE                   |
| 15. | National Collegiate Programming Contest (NCPC) - 2020                                                                                                                 | CSE                   |
| 16. | CSE department organized MIST Inter University ICT Innovation Fest 2021, A Celebration of Golden Jubilee of Independence, September - October 2021, Dhaka, Bangladesh | CSE                   |
| 17. | Effective Academic and Review Manuscript Writing                                                                                                                      | EECE                  |
| 18. | Robolution-2017                                                                                                                                                       | EECE                  |
| 19. | Seminar on "Student Professional Awareness & Appearance"                                                                                                              | EECE                  |
| 20. | Seminar on "Free Seminar on the Aspects of IEEE"                                                                                                                      | EECE                  |
| 21. | "5 MVA Substation Planning, Designing & Simulation Using Power System Analysis Software (ETAP)"                                                                       | EECE                  |
| 22. | "Power Sector of Bangladesh and Employment Opportunities Overview"                                                                                                    | EECE                  |
| 23. | "Lightning and Thunderstorm: Forecasting, Awareness & Protection"                                                                                                     | EECE                  |
| 24. | "Basic Internet Networking and Fellowship for Students Related to Internet Networking"                                                                                | EECE                  |
| 25. | "Internet Connectivity on Perspective of Bangladesh and Basic Internet Networking for Beginners"                                                                      | EECE                  |
| 26. | "Research Paper Writing"                                                                                                                                              | EECE                  |
| 27. | "Tri-Robo-Cup 2020"                                                                                                                                                   | EECE                  |
| 28. | International Conference on Electrical Engineering and Information & Communication Technology (iCEEiCT-2016)                                                          | EECE                  |
| 29. | 4th International Conference on Electrical Engineering and Information & Communication Technology (iCEEiCT 2018)"                                                     | EECE                  |
| 30. | International Conference on Electrical Engineering and Information & Communication Technology (iCEEiCT-2021)                                                          | EECE                  |

| Ser | Seminars                                                                                                                                        | Organizing Department |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 31. | Seminar on High Voltage Power Transmission: Prospects in Bangladesh organized in 2021                                                           | EECE                  |
| 32. | Robolution-2019                                                                                                                                 | EECE                  |
| 33. | Seminar on "Building Awareness on Safety and Security of Elevators among Users and Certification Authority Development for Lift in Bangladesh." | ME                    |
| 34. | Seminar on "Engineering for Global Innovation and Introduction to Research Work on Biomaterials: Mechanical Engineering Aspect"                 | ME                    |
| 35. | Prospect of Low Carbon Energy Technologies Around the World and its Transition.                                                                 | ME                    |
| 36. | Seminar on "Safety Ground Transportation Systems in Bangladesh"                                                                                 | ME                    |
| 37. | 1st International Conference On Mechanical Engineering And Applied Science.(ICMEAS-2017)                                                        | ME                    |
| 38. | Seminar on "Mechanical Behavior of High Temperature Ceramics for Space Applications", 2018                                                      | AE                    |
| 39. | Seminar 2016: Prospects of Shipbuilding Industries and Opportunities of Naval Architects in Bangladesh                                          | NAME                  |
| 40. | Seminar 2018: Necessity and implementation of International Association of Classification Societies (IACS)                                      | NAME                  |
| 41. | Seminar 2019 (World Maritime Day): Sustainable Shipping for a Sustainable Planet                                                                | NAME                  |
| 42. | Seminar on Environmental Responsibilities of Architects and Local Practice, 2017                                                                | Arch                  |
| 43. | Seminar on Earthquake Resilient Buildings: Design Consideration for Architects, 2016                                                            | Arch                  |
| 44. | Seminar on Water in Light, 2017                                                                                                                 | Arch                  |
| 45. | Seminar on Building Material: Innovation and Influence on Architecture, 2018                                                                    | Arch                  |
| 46. | Seminar on Pedagogy of The Built Environment Design Education For 21st Century, 2018                                                            | Arch                  |
| 47. | Seminar on Digital Architecture, Why? 2018                                                                                                      | Arch                  |
| 48. | Seminar on Housing is More Than Shelter, 2018                                                                                                   | Arch                  |
| 49. | Seminar on City Life Line, 2019                                                                                                                 | Arch                  |
| 50. | Seminar on School in Tropic: Place of Memory, Joy and Inspiration, 2019                                                                         | Arch                  |
| 51. | Seminar on Organic Materials for Grassroot Construction in Rural Bangladesh: Cases and Prospects, 2019                                          | Arch                  |
| 52. | Seminar on Content and Framework of Urban Plans, 2019                                                                                           | Arch                  |
| 53. | Seminar on Breaking the Ice, Professional Practice, 2019                                                                                        | Arch                  |
| 54. | Seminar on Real Housing Practices in Dhaka, 2019                                                                                                | Arch                  |
| 55. | Seminar on 'Architectural and Archeological Significance of Wari-Bateshwar'                                                                     | Arch                  |
| 56. | Seminar on 'Colonial Architecture in Bangladesh'                                                                                                | Arch                  |
| 58. | Biomedical Engineering: The Essential Prerequisite for Effective Healthcare in Bangladesh                                                       | BME                   |
| 59. | Seminar on "BioSafety Awareness: A Pathway to Improved Public Health"                                                                           | BME                   |
| 60. | Bangladesh International Conference for Biomedical Students & Young Doctors (BICoBS)                                                            | BME                   |
| 61. | Seminar on: 'Regenerative Medicine'                                                                                                             | BME                   |
| 62. | Seminar on "World Birth Defects Day: Social Awareness and Prevention"                                                                           | BME                   |
| 63. | A Presentation on: 'Career Brief'                                                                                                               | BME                   |
| 64. | 1st Meeting of: 'Industrial Advisory Panel'                                                                                                     | BME                   |
| 65. | Biomedical Engineering: Scope of Research and Its Applications                                                                                  | BME                   |
| 66. | Job Fair for Biomedical Engineers                                                                                                               | BME                   |
| 67. | Challenges and Future Prospects in the Sectors of Environment, Water Resources, and Coastal Zones: Perspective from Potential Engineers         | EWCE                  |



| Ser | Seminars                                                                                                | Organizing Department |
|-----|---------------------------------------------------------------------------------------------------------|-----------------------|
| 68. | 1st International Conference on Climate Change and Water Security                                       | EWCE                  |
| 69. | AQUAawareness- A Seminar and Exhibition on the Occasion of World Water Day 2018                         | EWCE                  |
| 70. | Seminar on "VVER Technology Based Nuclear Power Plant and Preparation for New Comer Countries"          | NSE                   |
| 71. | Seminar on "Present Status of Nuclear Energy Development in Bangladesh"                                 | NSE                   |
| 72. | Post Graduate Thesis Seminar                                                                            | NSE                   |
| 73. | Guest Lecture on Nuclear Security Culture                                                               | NSE                   |
| 74. | Seminar on "Energy Scenario and Prospect of Petroleum & Mining Engineering in Bangladesh"               | PME                   |
| 75. | Sustainable Energy Sectors Development; its Challenges and Energy Security of Bangladesh" and "Job Fair | PME                   |

## WEBINARS

| Ser | Webinars                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Organizing Department |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 1.  | Webinar on "SMRF & IMRF Design and Detailing of Structures; Challenges and Way out"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CE                    |
| 2.  | Webinar on "Silent Piling Technique"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CE                    |
| 3.  | A Webinar of two consecutive lectures titled "Evaluation of a Precast Prestressed Concrete Bridge through Non-Destructive Evaluation (NDE) and Load Testing" by Dr Nur Yazdani, Professor, Department of Civil Engineering, University of Texas at Arlington, U.S.A and "Performance-based Seismic Analysis & Design of Structures" by Lt Col Khondaker Sakil Ahmed, PhD, Associate Professor, Department of Civil Engineering, MIST                                                                                                                                                                                                                                                                                                                  | CE                    |
| 4.  | A Webinar comprising three lectures titled "Transit Reliability Assessment along a Congested Urban Corridor: A Traffic Microsimulation Modeling Approach" by Dr. Mahmudur Fatmi, Assistant Professor, School of Engineering, Civil Engineering, The University of British Columbia, Okanagan campus, Canada, "A Framework for Involving the Young Generation in Transportation Planning Using Social Media and Crowd Sourcing" by Dr. Moinul Hossain, Professor, Department of Civil and Environmental Engineering (CEE), Islamic University of Technology (IUT)-OIC, Bangladesh, and "Impact of Climate Change on Pavement Performance in Bangladesh" by Brig Gen Shah Md Muniruzzaman (Retd), PhD, Professor, Department of Civil Engineering, MIST | CE                    |
| 5.  | Webinar on International Seminar on Mega Structures 2021.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CE                    |
| 6.  | Online Webinar on "Project Management For Industrial Revolution 4.0"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ME                    |
| 7.  | Webinar on "Career path in robotics: Challenges, Readiness & Opportunities"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ME                    |
| 8.  | Webinar on "Recent Advances in Automation, Control & Robotics towards Industry 4.0"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ME                    |
| 9.  | Webinar on "Exploring Aeronautics" organized by MIST Aeronautics & Astronautics Club (MAAC), 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | AE                    |
| 10. | Webinar On "Space Studies and Research in Bangladesh", 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | AE                    |
| 11. | Webinar on "Tales of A Luminary" organized by MIST Aeronautics & Astronautics Club (MAAC), 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | AE                    |
| 12. | Webinar 2020 on World Maritime Day: Sustainable Shipping for a Sustainable Planet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | NAME                  |
| 13. | Webinar 2021 on World Maritime Day: Role of Naval Architects in Ensuring Safety and Comfort of Seafarers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | NAME                  |
| 14. | Webinar on Role of Naval Architects in Ensuring Safety and Comfort of Seafarers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | NAME                  |
| 15. | Webinar on Architecture Now and Beyond.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Arch                  |
| 16. | Webinar on "Biosafety for Clinical and Public Health"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | BME                   |
| 17. | Online Webinar on Water Pollution and Public Health                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | EWCE                  |
| 18. | Webinar on Nuclear Fuel Cycle and Waste Management                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | NSE                   |
| 19. | Webinar on Nuclear Power Plant Operation and Maintenance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | NSE                   |
| 20. | An online seminar titled "Webinar on Lean Six Sigma"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | IPE                   |
| 21. | A four-day webinar titled "Data Analysis with R"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | IPE                   |

## WORKSHOPS

| Ser | Workshops                                                                                                          | Organizing Department |
|-----|--------------------------------------------------------------------------------------------------------------------|-----------------------|
| 1.  | Workshop on Seismic Performance Assessment and Design of Structure                                                 | CE                    |
| 2.  | Workshop on "Performance Based Seismic Design of Structures"                                                       | CE                    |
| 3.  | Workshop on "Transport Planning & Policy"                                                                          | CE                    |
| 4.  | Workshop on Outcome Based Education (OBE) System                                                                   | CE                    |
| 5.  | Workshop on "Transport Planning Design and Modelling"                                                              | CE                    |
| 6.  | Workshop on ABET accreditation                                                                                     | CE                    |
| 7.  | Workshop on "BDAPPS"                                                                                               | CSE                   |
| 8.  | Workshop on Basic Arduino                                                                                          | CSE                   |
| 9.  | Workshop on Cloud Computing                                                                                        | CSE                   |
| 10. | Workshop on "1st Robi Datathon Competition"                                                                        | CSE                   |
| 11. | Workshop on Technique Electrical Power Quality Understanding, Standard, Events, Analysis and Mitigation Techniques | EECE                  |
| 12. | Workshop on Line Following Robot (LFR)                                                                             | EECE                  |
| 13. | Online Workshop on "Ionospheric Prediction and Forecasting"                                                        | EECE                  |
| 14. | Workshop on Embedded System Design (using Raspberry Pi) organized in 2021                                          | EECE                  |
| 15. | Workshop on ABET & OBE                                                                                             | EECE                  |
| 16. | Workshop on Automobile" arranged by MOTOMIST Automotive Club.                                                      | ME                    |
| 17. | Workshop on "Outcome Based Education (OBE)"                                                                        | ME                    |
| 18. | Workshop on "Computational Fluid Dynamics"                                                                         | ME                    |
| 19. | Workshop on "Hydraulic System Design and Control"                                                                  | ME                    |
| 20. | Online workshop on "Hydraulic Systems"                                                                             | ME                    |
| 21. | Workshop on Techniques of Model Making, 2016                                                                       | Arch                  |
| 22. | Workshop on Techniques of Model Making, 2018                                                                       | Arch                  |
| 23. | Workshop on Energy and Environmental Behavior of Buildings, 2019                                                   | Arch                  |
| 24. | Workshop on Rhino Modeling Essentials and introduction to Grasshopper, 2019                                        | Arch                  |
| 25. | Workshop on "Biomedical Imaging"                                                                                   | BME                   |
| 26. | Workshop on PCTran Nuclear Power Plant Simulator                                                                   | NSE                   |
| 27. | Workshop on COMSOL Multiphysics Software                                                                           | NSE                   |
| 28. | Workshop on "Nuclear Reactor Core and Fuel Analysis"                                                               | NSE                   |
| 30. | An online workshop titled "IPE Career Talk 1.0 RMG Sector"                                                         | IPE                   |



## SHORT COURSES

| Ser | Short Courses                                                                                                          | Organizing Department |
|-----|------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 1.  | Short Course on Advance Bridge Design 2017                                                                             | CE                    |
| 2.  | Short Course on Retrofitting of Structures                                                                             | CE                    |
| 3.  | Training Program on Occupational Safety, Health and Environment Management in EPZS of Bangladesh, BEPZA-MIST           | CE                    |
| 4.  | Short Course on Design of Tall Building                                                                                | CE                    |
| 5.  | Short Course on Construction Management                                                                                | CE                    |
| 6.  | Short Course on ANSYS (CIVIL)                                                                                          | CE                    |
| 7.  | Certificate Course on Professional GIS                                                                                 | CE                    |
| 8.  | Certificate Course on Professional Building and Bridge Design using ETABS and SAP 2000                                 | CE                    |
| 9.  | Professional Training Program on Environmental Management in Export Processing Zones of Bangladesh                     | CE                    |
| 10. | Professional Training Course on Promotion of Industrial, Social and Environmental Standards in EPZs of Bangladesh      | CE                    |
| 11. | Post Graduate Diploma on Project Planning, Development and Management                                                  | CE                    |
| 12. | Cert Awarding Ceremony of Mobile Apps Development Course-2015 and Inauguration of MIST Data Centre                     | CSE                   |
| 13. | Certificate awarding ceremony of "basic ICT training for BEPZA officials"                                              | CSE                   |
| 14. | Cert Course on Cyber Sy by NIIT, INDIA -2017                                                                           | CSE                   |
| 15. | Short Course on C Programming Language                                                                                 | CSE                   |
| 16. | Short Course on Cisco Certified Network Associate (CCNA) -2017                                                         | CSE                   |
| 17. | Capsule Trg on Unicode                                                                                                 | CSE                   |
| 18. | Short Course on 'CompTia A+' For CSE - 18                                                                              | CSE                   |
| 19. | Short Course on A-Z of MS Excel -2018                                                                                  | CSE                   |
| 20. | Short Course on Unicode for Clerk                                                                                      | CSE                   |
| 21. | Short Course on 'CompTia A+' for CSE - 19                                                                              | CSE                   |
| 22. | Short Course on 'Mobile Application Development (Android OS)' for CSE -18                                              | CSE                   |
| 23. | Cert Course on Cyber Security-2019                                                                                     | CSE                   |
| 24. | Resume on Inaugural Ceremony of Postgraduate Research Lab and Cert Awarding Ceremony of Mob Apps Dev Short Course-2016 | CSE                   |
| 25. | Short Course on "AutoCAD for Electrical Service Design"                                                                | EECE                  |
| 26. | "AutoCAD For Electrical Service Design"                                                                                | EECE                  |
| 27. | Electrical Service Design"                                                                                             | EECE                  |
| 28. | "Comptia A+ - 2018"                                                                                                    | EECE                  |
| 29. | Short Course on Introduction to Machine Learning and Python organized in 2021                                          | EECE                  |
| 30. | AutoCAD for Electrical Service Design organized in 2021                                                                | EECE                  |
| 31. | Matlab & Python Course organized in 2021                                                                               | EECE                  |
| 32. | Programming Language Course (C, C++) 2021                                                                              | EECE                  |
| 33. | Short Course on Thunder Arrester SP 2021                                                                               | EECE                  |
| 34. | Short Course on Cable Designing 2021                                                                                   | EECE                  |
| 35. | Microcontroller Based Embedded System Design using Arduino 2021                                                        | EECE                  |
| 36. | Short Course on Electrical Protective Devices 2021                                                                     | EECE                  |
| 37. | Short Course on "Programmable Logic Controller"                                                                        | ME                    |
| 38. | Short Training on Assessment Capability Development of Commercial HVAC Layout.                                         | ME                    |
| 39. | Short course on "Basic Solidworks"                                                                                     | ME                    |
| 40. | Short Course on "ANSYS"                                                                                                | ME                    |

| Ser | Short Courses                                                                                           | Organizing Department |
|-----|---------------------------------------------------------------------------------------------------------|-----------------------|
| 41. | Short course on "Air Conditioning Duct design (HVAC)"                                                   | ME                    |
| 42. | Short course on "Hydraulic System Design"                                                               | ME                    |
| 43. | Short Course on "Modern Features of Automotive Vehicle and Vehicle Inspection Procedure"                | ME                    |
| 44. | Training on "Automotive Inspection"                                                                     | ME                    |
| 45. | Short Courses conducted on Computational Fluid Dynamics(CFD)-2018                                       | AE                    |
| 46. | Certification Course on Oracle and Comtia A+, 2018                                                      | AE                    |
| 47. | Training on Outcome Based Education System- 2018 By Resource Person of BAETE (Prof Dr. Anisul Haque)    | AE                    |
| 48. | Regular In house Training on Outcome Based Education since 2019                                         | AE                    |
| 49. | Short Course on Ship Design Software (MAXSURF & Rhino) organized in 2016, 2017, 2018, 2019, 2020 & 2021 | NAME                  |
| 50. | Short Course on: 'Rapid Prototyping: A Robust platform for Advanced Biomanufacturing.'                  | BME                   |
| 51. | Short Course on "Introduction to Programming with MATLAB"                                               | BME                   |
| 52. | Short Course on "SOLIDWORKS for Biomedical Applications"                                                | BME                   |
| 53. | Certificate Course on Tube well Design                                                                  | EWCE                  |
| 54. | Short Course on "Plumbing Design: Theory and Practice"                                                  | EWCE                  |
| 55. | Short Course on "LPG Plant Construction and Operation"                                                  | PME                   |
| 56. | Short Course on "Petroleum Reservoir Modeling by Eclips and Petrel"                                     | PME                   |
| 57. | A three-day online-based competition titled "Business Case Competition Mega Mind 1.0"                   | IPE                   |



# LABORATORY FACILITIES

## Faculty of Civil Engineering

### CE Department

- Geotechnical Laboratory
- Transportation Laboratory
- Survey and Mapping Laboratory
- Geographic Information System (GIS) Laboratory

### EWCE Department

- Environmental Engineering Laboratory
- Water Resource Engineering Laboratory

### PME Department

- Petroleum Engineering Lab
  - ✓ Core Analysis Unit
  - ✓ Drilling Fluid Preparing and Testing Unit
  - ✓ Reservoir Fluid Analysis Unit
  - ✓ Reservoir Geology Unit
- Natural Gas Lab
- PME Simulation Lab
- Mining Engineering Lab
  - ✓ Rock Mechanics Unit
  - ✓ Mine Survey & Photogrammetry Unit
  - ✓ Mine Model Survey
  - ✓ Mine Instrumentation, Equipment and Machinery
  - ✓ Coal Testing Unit

### Arch Department

- Laboratory under processing:
  - ✓ Computer Laboratory
  - ✓ Model Making Laboratory
- Future Laboratory:
  - ✓ Urban and Landscape Design Laboratory
  - ✓ Architectural Design Laboratory
  - ✓ Photography and Image Processing Laboratory
  - ✓ Heritage and Conservation Laboratory
  - ✓ Environmental Design Laboratory
  - ✓ Building Technology and Performance Design Laboratory

## Faculty of Electrical and Computer Engineering:

### CSE Department

- Digital Laboratory
- Multimedia and Graphics Laboratory
- Network Laboratory
- Software Engineering Laboratory
- Artificial Laboratory
- Micro Processor & Micro Controller Laboratory
- Postgraduate Research Laboratory
- Computer Programming and Networking Laboratory
- Mobile App and Game Testing Laboratory
- Information Security and digital Forensic Laboratory

### EECE Department

- Electrical Circuit Laboratory
- Measurement & Instrumentation System Laboratory
- Control System Laboratory
- Electronics Laboratory
- Power Electronics Laboratory
- Electrical Circuit Simulation Laboratory
- Electronic Circuit Simulation Laboratory
- Numerical Technique Analysis Laboratory
- Digital Signal Processing Laboratory
- VLSI Laboratory
- Electrical Machine Laboratory
- Advanced Machine Laboratory
- Power System Laboratory
- Switchgear & Protection Laboratory
- High Voltage Laboratory
- Analog and Digital Communication Laboratory
- Microwave Laboratory
- Telecom Laboratory
- Electronic Warfare Laboratory
- Sonar and Under Water Engineering Laboratory
- Communication Network Laboratory
- Radar Engineering Laboratory
- Biomedical Signal Processing Laboratory
- Biomedical Instrumentation Laboratory

## Faculty of Mechanical Engineering:

### ME Department

- Measurement & Quality Control Laboratory
- Thermodynamics Laboratory
- Applied Thermodynamics Laboratory
- Refrigeration & Air Conditioning Laboratory
- Heat Transfer Laboratory
- Automobile Laboratory
- Machine Tools Laboratory
- Materials and Metallurgy Laboratory
- Drawing Shop
- CAD Laboratory
- Heat Engine Laboratory
- Applied Mechanics Laboratory
- Fluid Mechanics Laboratory

### AE Department

- Applied Aerodynamics Laboratory
- Jet Propulsion Laboratory
- Radar Engineering Laboratory
- Avionics and Ground Electronics Laboratory
- Aero-structure Laboratory

### NAME Department

- Computer Aided Ship Design Lab
- Ships Structure and Fabrication Lab
- Marine Machinery Lab
- Ship Instrument Lab
- Damage Control Fire Fighting and Life Saving Lab
- Ship Propulsion Lab
- Ship Resistance Lab
- Machine Tools Lab
- Model Fabrications Lab
- Towing tank stability Lab
- Marine Transportation Lab
- Hydrodynamics Lab
- Auxiliary Machinery Lab

### IPE Department

- Advanced Machine Tools and Production Process Lab
- Ergonomics and Safety Engineering Lab
- Computer Integrated Manufacturing and Automation Lab

- Material Handling
- Simulation & Process Engineering Design Lab
- Instrumentation, Measurement and Quality Control Lab
- Material Characterization Lab

## Faculty of Science and Engineering:

### NSE Department

- Radiation Detection and Medical Application Lab
- Nuclear Chemistry and Safeguard Lab
- Modelling and Simulation Lab
- Thermo Fluid Dynamics Lab
- Nuclear Reactor and Control Lab
- Nuclear Technique and Material Lab
- Nuclear Safety and Security Lab
- Nuclear Fuel and Waste Safety Lab

### BME Department

- Biomedical Instruments Laboratory
- Biomechanics and Rehabilitation Engineering Laboratory
- Biomedical Design Laboratory
- Bio-fluid laboratory
- Biochemistry Laboratory
- Biomaterials Laboratory
- Cell and Tissue Engineering Laboratory
- Biomedical Signal and Image Processing Laboratory

### Science and Humanities (Sc & Hum) Department

- Chemistry Laboratory
- Physics Laboratory



# FACULTY MEMBERS

A group of qualified faculty from military as well as from civil society (internationally reputed) are relentlessly engaged in imparting knowledge to the students. In addition, faculties from reputed universities contribute as resource persons in various disciplines. Guest speakers / faculties from various organisations / institutions / universities are also invited to participate in teaching programs, lecturers, seminars etc. At present, the state of Instructors / faculties of MIST are as follows:

| Appt                | Faculty of CE        |               |               |             | Faculty of ECE      |              | Faculty of ME |              |              |          | Faculty of Sc & Engg |                      |               | Total |
|---------------------|----------------------|---------------|---------------|-------------|---------------------|--------------|---------------|--------------|--------------|----------|----------------------|----------------------|---------------|-------|
|                     | CE Dept              | ARCH Dept     | EWCE Dept     | PME Dept    | CSE Dept            | EECE Dept    | ME Dept       | AE Dept      | NAME Dept    | IPE Dept | BME Dept             | NSE Dept             | Sc & Hum Dept |       |
| Brig Gen            | 01                   | -             | -             | -           | 01                  | 01           | 02            | 01           | 01           | -        | -                    | -                    | -             | 07    |
| Professor           | *02<br>**02<br>#06   | #02           | **02          | **01<br>#02 | *01<br>***01<br>#01 | **02<br>#19  | **02          | **01         | **01<br>#01  | **01     | **01<br>#02          | **01<br>***01<br>#01 | #02           | 55    |
| Col                 | 01                   | 01            | 01            | 01          | 02                  | 02           | 02            | 02           | 02           | 01       | 01                   | 01                   | 02            | 19    |
| Associate Professor | -                    | **02<br>***03 |               | **01        | #01                 | **01<br>#01  | ***01         | -            | -            | -        | #02                  | #03                  | -             | 15    |
| Lt Col              | 06                   | -             | 02            | -           | 02                  | 04           | 01            | -            | 04           | 01       | -                    | -                    | 02            | 22    |
| Assistant Professor | *03<br>**02<br>***01 | **04<br>***04 | **01          | **01<br>#01 | *01<br>**05<br>#01  | *02<br>***01 | *03<br>**03   | *03<br>***01 | *03          | -        | ***04<br>#01         | *02                  | *02<br>#02    | 51    |
| Maj                 | 01                   | -             | 05            | -           | 02                  | 05           | 01            | 02           | -            | 01       | 04                   | -                    | 09            | 30    |
| Captain             | -                    | 02            | -             | 01          | 01                  | -            | 01            | 01           | -            | 01       | -                    | 01                   | -             | 08    |
| Lecturer            | *01<br>***10         | *01<br>**06   | **04<br>***03 | ***06       | *02<br>***11        | *02<br>***13 | *01<br>***14  | *02<br>***08 | *02<br>***02 | **08     | ***03                | **01<br>***05        | ***12         | 117   |
| TA                  |                      |               |               |             |                     |              | **01          | **01         |              |          |                      |                      |               | 02    |
| RA                  |                      |               |               |             |                     |              | **01          | **01         |              |          |                      |                      |               | 02    |
| Total               | 36                   | 25            | 18            | 14          | 32                  | 53           | 33            | 23           | 16           | 13       | 18                   | 16                   | 31            | 328   |

## LEGEND:

| Civil Faculty Members |     |
|-----------------------|-----|
| Permanent             | *   |
| Contractual           | **  |
| Adjunct               | *** |
| Other Universities    | #   |

## JOURNAL PAPERS PUBLISHED IN 2021

### Q1 PAPER

| Ser | Title of the Article                                                                                                   | Name of the Authors                                                                                                                            | Dept | Quartile of the journal |
|-----|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------------|
| 01. | Effect of polypropylene plastic on concrete properties as a partial replacement of stone and brick aggregate.          | Md. Jahidul Islam *, Md. Shahjalal                                                                                                             | CE   | Q1                      |
| 02. | A quantitative analysis of shoreline changes along the coast of Bangladesh using remote sensing and GIS techniques.    | Naila Matin, G. M. Jahid Hasan                                                                                                                 | CE   | Q1                      |
| 03. | Correlation between temperature, sea level rise and land loss: an assessment along the Sundarbans coast                | Abdullah-Al Jabir, G. M. Jahid Hasan*, Md. Manjurul Anam                                                                                       | CE   | Q1                      |
| 04. | Spatio-temporal variation and prediction of land use based on CA-Markov of southwestern coastal district of Bangladesh | M Tauhid Ur Rahman, Jannatul Ferdous                                                                                                           | CE   | Q1                      |
| 05. | Flexural response of fiber reinforced concrete beams with waste tires rubber and recycled aggregate                    | Md. Shahjalal, Kamrul Islam, Jesika Rahman, Khondaker Sakil Ahmed, Mohammad Rezaul Karim, AHM Muntasir Billah                                  | CE   | Q1                      |
| 06. | Data-driven shear strength prediction of steel fiber reinforced concrete beams using machine learning approach         | Jesika Rahman, Khondaker Sakil Ahmed, Nafiz Imtiaz Khan, Kamrul Islam, Sujith Mangalathue                                                      | CE   | Q1                      |
| 07. | Bond strength of post-installed high strength deformed rebar in concrete                                               | Khondaker Sakil Ahmed, Md Shahjalal, Tanvir Ahmed Siddique, Ang Kok Keng                                                                       | CE   | Q1                      |
| 08. | Flexural response of stainless steel reinforced concrete beam                                                          | Khondaker Sakil Ahmed, Md Ahsan Habib, Md Farhan Asef                                                                                          | CE   | Q1                      |
| 09. | Predicting bearing capacity of double shear bolted connections using machine learning                                  | Samia Zakir Sarothi, Khondaker Sakil Ahmed , Nafiz Imtiaz Khan, Aziz Ahmed, Moncef L Nehdi                                                     | CE   | Q1                      |
| 10. | VGG-SCNet: A VGG Net based Deep Learning framework for Brain Tumor Detection of MRI Images                             | Mohammad Shahjahan Majib, Md. Mahbubur Rahman, , T. M. Shahriar Sazzad, Nafiz Imtiaz Khan, and Samrat Kumar Dey                                | CSE  | Q.1                     |
| 11. | IoT-based Serious Gaming Platform for Improving Cognitive Skills of Children with Special Needs                        | Lt Col Nazrul Islam, Forkanul Islam, Uzma Hasan, Anuva, Lec Tarannum Zaki                                                                      | CSE  | Q.1                     |
| 12. | Developing a Novel Hands-free Interaction Technique based on Nose and Teeth Movements for Using Mobile Devices         | Muhammad Nazrul Islam, Md Shadman Aadeeb, Rafiur Rahman Khan, Md. Mahadi Hassan Munna, Mahmud Sarwar, Shamima Nasrin and A. K. M. Najmul Islam | CSE  | Q-1                     |



| Ser | Title of the Article                                                                                                                                                       | Name of the Authors                                                                                                       | Dept | Quartile of the journal |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|------|-------------------------|
| 13. | Neurological and physiological measures to evaluate the usability and user-experience (UX) of information systems                                                          | Tarannum Zaki, Muhammad Nazrul Islam                                                                                      | CSE  | Q-1                     |
| 14. | Exploring Machine Learning Algorithms to Find the Best Features for Predicting Modes of Childbirth                                                                         | Muhammad Nazrul Islam, Tahasin Mahmud, Nafiz Imtiaz Khan, Sumaiya Nuha Ustafina and A. K. M. Najmul Islam                 | CSE  | Q-1                     |
| 15. | Analyzing the Global Impact of COVID-19 Vaccination Progress: Insight from an Exploratory data analysis                                                                    | Samrat Kumar Dey*, Md. Mahbubur Rahman, Umme Raihan Siddiqi, Arpita Howlader and Arifuzzaman Tushar                       | CSE  | Q.1                     |
| 16. | An efficient authentication scheme for secured service provisioning in edge-enabled vehicular cloud networks towards sustainable smart cities                              | Mohammad Mamun Elahi. Md. MahbuburRahman. Mohammad Mahfuzul Islam                                                         | CSE  | Q1                      |
| 17. | Study of the upper transition height using ISR observations and IRI predictions over Arecibo                                                                               | Rajesh Vaishnava, Yuyan Jinb, Md. Golam Mostafa, Sara R. Aziz, Shun-Rong Zhangg, Christoph Jacobia                        | EECE | Q1                      |
| 18. | Highly Sensitive Surface Plasmon Resonance Refractive Index Multi-Channel Sensor for Multi-Analyte Sensing                                                                 | K. M. Mustafizur Rahman , M. Shah Alam, M. Asiful Islam,                                                                  | EECE | Q1                      |
| 19. | Impact of Channel Thickness on the Performance of GaAs and GaSb DG-JLMOSEFETs: An Atomistic .Tight Binding Based Evaluation                                                | Muhammad Shaffatul Islam, Md. Soyaeb Hasan, Md. Rafiqul Islam, Ahmed Iskanderani, Ibrahim M. Mehedi, and Md. Tanvir Hasan | EECE | Q1                      |
| 20. | Selection of the natural fiber for sustainable applications in aerospace cabin interior using fuzzy MCDM model                                                             | Debanan Bhadra, Nikhil Ranjan Dhar                                                                                        | AE   | Q1                      |
| 21. | On the investigation of reuse potential of SnPb-solder affected copper subjected to work-hardening and thermal ageing                                                      | M. Muzibur Rahman, S. Reaz Ahmed, M. Salim Kaiser                                                                         | NAME | Q1                      |
| 22. | Wastewater treatment by microalgal membrane bioreactor: Evaluating the effect of organic loading rate and hydraulic residence time.                                        | A.K.M.Ashadullah & Md Shafiquzzaman, Husnain Haider, Mohammad Alresheedi, Mohammad Shafiul Azam, Abdul Razzaq Ghumman,    | EWCE | Q1                      |
| 23. | CFD validation with optimized mesh using benchmarking data of pebble-bed high-temperature reactor                                                                          | F. Ahmed, N Ara, V. Deshpande, A.S. Mollah, PK Bhowmik                                                                    | NSE  | Q1                      |
| 24. | Computational assessment of thermo-hydraulic performance of Al <sub>2</sub> O <sub>3</sub> -water nanofluid in hexagonal rod-bundles subchannel Progress in Nuclear Energy | F. Ahmed, M A Abir, Palash K Bhowmik, V. Deshpande, A.S. Mollah, Dinesh Kumar, Syed Alam                                  | NSE  | Q1                      |
| 25. | Thermohydraulic performance of water mixed Al <sub>2</sub> O <sub>3</sub> ,TiO <sub>2</sub> or graphene-oxide nanoparticles for nuclear fuel triangular subchannel         | F. Ahmed, Md Atrehar Abir, P.K. Bhowmik, V. Deshpande and A. S. Mollah                                                    | NSE  | Q1                      |

| Ser | Title of the Article                                                                                                                                      | Name of the Authors                                                                                                                                                 | Dept | Quartile of the journal |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------------|
| 26. | Impact of Covid-19 on Online Education in Developing Countries – An Overview                                                                              | Paul, Abdul Aziz Aldiab, Somnath Chattopadhyaya, Altab Hossain, Zinat Tasneem, Nawshad Haque, Anupam Basu, Tashi Gyeltshen, Yangdon, Reza Nakhaie Jazar, Firoz Alam | NSE  | Q1                      |
| 27. | Development and Validation of an Early Scoring System for Prediction of Disease Severity in COVID-19 Using Complete Blood Count Parameters                | Tawsifur Rahman, Amith Khandakar, Md Enamul Hoque, Nabil Ibtehaz, Saad Bin Kashem, Reehum                                                                           | BME  | Q1                      |
| 28. | Predicting Drying Performance of Osmotically Treated Heat Sensitive Products Using Artificial Intelligence                                                | S. M. Atique Rahman,* Hegazy Rezk, Mohammad Ali Abdel kareem, M. Enamul Hoque, Tariq Mahbub, Sheikh Khaleduzzaman Shah and Ahmed M. Nassef                          | BME  | Q1                      |
| 29. | Recent advances in natural polymer-based hydroxyapatite scaffolds: Properties and applications                                                            | Anita Lett, Sagadevan Suresh, Is Fatimah, Md Enamul Hoque, Yogeswaran Lokanathan, Estelle Léonard, Romana Schirhagl, Solhe F Alshahateef, Won Chun Oh               | BME  | Q1                      |
| 30. | Recent advances in scaffolding from natural-based polymers for volumetric muscle injury                                                                   | Tamrin Nuge, Ziqian Liu, Xiaoling Liu, Bee Chin Ang, Andri Andriyana, Hendrik Simon Cornelis Metselaar, Md Enamul Hoque                                             | BME  | Q1                      |
| 31. | Potential detrimental role of soluble ACE2 in severe COVID-19 comorbid patients                                                                           | Mohammad Mahmudur Rahman, Maruf Hasan, Asif Ahmed                                                                                                                   | BME  | Q1                      |
| 32. | Challenges to COVID-19 vaccine supply chain: Implications for sustainable development goals                                                               | Shahriar Tanvir Alam, Sayem Ahmed, Syed Mithun Ali, Sudipa Sarker, Golam Kabir, Asif ul-Islam                                                                       | IPE  | Q1                      |
| 33. | An overview of Asian cement industry: Environmental impacts, research methodologies and mitigation measures                                               | Mushaer Ahmed, Imranul Bashar, Shahriar Tanvir Alam, Absar Ishraq Wasi, Ismat Jerin, Sinthea Khatun, Mazidur Rahman                                                 | IPE  | Q1                      |
| 34. | Fuel property improvement and exhaust emission reduction, including noise emissions, using an oxygenated additive to waste plastic oil in a diesel engine | Wisam K. Hussam, Md. Nurun Nabi, Md. Wahid Chowdhury, Md. Emdadul Hoque, Adib Bin Rashid, Mohammad Towhidul Islam                                                   | IPE  | Q1                      |



## Q2 PAPER

| Ser | Title of the Article                                                                                                                                  | Name of the Authors                                                                                                                                                                                   | Dept | Quartile of the journal |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------------|
| 01  | Exploring the Fundamental Factors of Digital Inequality in Bangladesh.                                                                                | Muhammad Nazrul Islam, Toki Tahmid Inan                                                                                                                                                               | CSE  | Q2                      |
| 02  | Irregular hexagonal core based surface plasmon resonance sensor in near-infrared region                                                               | K M Mustafizur Rahman, M Shah Alam, Rajib Ahmed, M Asiful Islam                                                                                                                                       | EECE | Q2                      |
| 03  | A dual polarized universal reader for frequency domain-based chipless RFID tags and sensors                                                           | Md Aminul Islam, Nemai C. Karmakar                                                                                                                                                                    | EECE | Q2                      |
| 04  | Study on the effects of winglets: wind turbine blades having circular arc blade section profile                                                       | Nafiz Ahmed Khan Islam, Md Quamrul Islam                                                                                                                                                              | AE   | Q2                      |
| 05  | Dry Sliding Friction and Wear Resistance of SnPb-Solder Affected Copper against Stainless Steel Counter Surface                                       | Muhammad Muzibur Rahman*, Shaikh Reaz Ahmed                                                                                                                                                           | NAME | Q2                      |
| 06  | On the investigation of wind generated waves in Bangladesh rivers for the assessment of stability requirements in inland vessel design.               | Muhammad Rabiul Islam, Mahmudul Hasan Akib, Fariha Tabassum, Khandakar Akhter Hossain                                                                                                                 | NAME | Q2                      |
| 07  | A Comprehensive Analysis of the Stability and Powering Performances of a Hard Sail-Assisted Bulk Carrier                                              | Md Daluar Hussain, Osman Md Amin                                                                                                                                                                      | NAME | Q2                      |
| 08  | Assessment of biomass production and greywater treatment capability of algal-based membrane bioreactor                                                | Md. Shafquzzaman, A. K. M. Ashadullah, H. Haider, Md. M. Hasan, M. S. Azam, M. T. Al resheedi, S. S. Al Saleem, A. R. Ghumman                                                                         | EWCE | Q2                      |
| 09  | Recent Advancement of Biopolymers and Their Potential Biomedical Applications.                                                                        | Manik Chandra Biswas, Bodiuzzaman Jony, Pranab Kumar Nandy, Reaz Ahmed Chowdhury, Sudipta Halder, Deepak Kumar, Seeram Ramakrishna, Masud Hassan, Md Ariful Ahsan, Md Enamul Hoque, Muhammad Ali Imam | BME  | Q2                      |
| 10  | Accelerated wound closure: Systematic evaluation of cellulose acetate effects on biologically active molecules release from amniotic fluid stem cells | Tamrin Nuge, Xiaoling Liu, Kim Yeow Tshai, Siew Shee Lim, Norshariza Nordin, Md. Enamul Hoque, Ziqian Liu                                                                                             | BME  | Q2                      |
| 11  | Emotion recognition from EEG-based relative power spectral topography using convolutional neural network                                              | Md Asadur Rahman, Anika Anjum, Md. Mahmudul Haque Milu, Farzana Khanam, Mohammad Shorif Uddin, Md. Nurunnabi Mollah                                                                                   | BME  | Q2                      |
| 12  | Discrete and Connected Characters Recognition from Multi-Line License Plates Using Image Processing and Adaptive Neuro Fuzzy Inference System         | Abu Jar Md.Minhuz Uddin Ahmed, Md. Anwar Uddin, Md. Asadur Rahman                                                                                                                                     | BME  | Q2                      |

| Ser | Title of the Article                                                                                                          | Name of the Authors                                                                                                                      | Dept | Quartile of the journal |
|-----|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------------|
| 13  | Video based non-contact monitoring of respiratory rate and chest indrawing in children with pneumonia                         | Ferdous Karim Lucy, Khadiza Tun Suha, Sumaiya Tabassum Dipty, Md Sharjis Ibne Wadud, Muhammad Abdul Kadir                                | BME  | Q2                      |
| 14  | A decision support model for evaluating risks in a collaborative supply chain of the medical equipment manufacturing industry | R.K.A Bhalaji, Bathrinath Sankaranarayanan, Shahriar Tanvir Alam, Niamat Ullah Ibne Hossain, Syed Mithun Ali, S.M, Koppiahraj Karuppiyah | IPE  | Q2                      |

### Q3 PAPER

| Ser | Title of the Article                                                                                                                                                     | Name of the Authors                                                                               | Dept | Quartile of the journal |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|------|-------------------------|
| 01  | Seismic slope failures: a numerical investigation by the smoothed                                                                                                        | Md. Aftabur Rahman, Nafisa Tabassum & Mohammed Russedul Islam                                     | CE   | Q3                      |
| 02  | Engineering characteristics of soil stabilised with saw dust ash and cement                                                                                              | Tausif E Elahi, Azmayeen Rafat Shahriar, Md Kausar Alam & Md Zoynul Abedin                        | CE   | Q3                      |
| 03  | An 8×8 mm-Wave LP ACMPA Array for a Long-Range mm-Wave Chipless RFID Tag-Sensor Reader                                                                                   | Md Aminul Islam, and Nemaï Chandra Karmakar                                                       | EECE | Q3                      |
| 04  | Modelling the Effect of Resin-Finishing Process Variables on the Dimensional Stability and Bursting Strength of Viscose Plain Knitted Fabric Using a Fuzzy Expert System | Ismail Hossain, Md. Hasib Uddin, Altab Hossain, Mohammad Abdul Jalil, Zulhash Uddin               | NSE  | Q3                      |
| 05  | Natural Fiber-Based Green Composites: Processing, Properties and Biomedical Applications                                                                                 | Md Enamul Hoque Asif Mahmud Rayhan Samira Islam Shaily                                            | BME  | Q3                      |
| 06  | Two-dimensional based hybrid materials for photocatalytic conversion of carbon dioxide into hydrocarbon fuels: A mini review                                             | Dr. Karthik Kannan, D Radhika, D Gnanasangeetha, K Gurushankar, M E Hoque                         | BME  | Q3                      |
| 07  | Common Spatial Pattern in Frequency Domain for Feature Extraction and Classification of Multichannel EEG Signals                                                         | Pritom Kumar Saha, Md. Asadur Rahman, Mohammad Khurshed Alam, Asma Ferdowsi, Md. Nurunnabi Mollah | BME  | Q3                      |
| 08  | The effects of plaque morphological characteristics on the post-stenotic flow in left main coronary artery bifurcation.                                                  | Tahura Hossain, Noushin Anan and M Tarik Arifat                                                   | BME  | Q3                      |



## Q4 PAPER

| Ser | Title of the Article                                                                                                          | Name of the Authors                                                                            | Dept | Quartile of the journal |
|-----|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------|-------------------------|
| 01  | Force-Sensitive Classic Toothbrush: System Analysis, Design and Simulation                                                    | Md Akhtaruzzaman                                                                               | CSE  | Q4                      |
| 02  | Numerical Simulation of Heat exchanger for analyzing the performance of parallel and counter flow                             | Farid Ahmed, Md Minaruzzaman Sumon, Muhtasim Fuad, Ravi Gugulothu, AS Mollah                   | NSE  | Q4                      |
| 03  | Heat transfer performance prediction of a cooling tower with Nano fluid using fuzzy expert system                             | Habibur Rahman, Altab Hossain, Mohammad Ali                                                    | NSE  | Q4                      |
| 04  | Performance evaluation of graphite and Titanium Oxide powder mixed dielectric for electric discharge machining of Ti- 6Al- 4V | Shahriar Tanvir Alam, AKM Nurul Amin, Md. Ibrahim Hossain, Maliha Huq & Shaquvit Hossain Tamim | IPE  | Q4                      |

## RECOGNITION OF ACADEMIC PERFORMANCE

### Osmany Memorial Gold Medal

Awarded to the graduating regular student with highest CGPA obtained graduating regular student among all the MIST medal winners



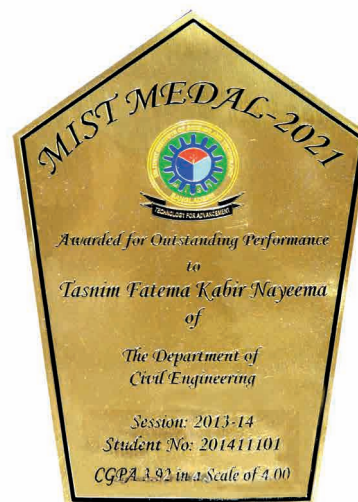
FRONT VIEW



REAR VIEW

### MIST Medal

Awarded to the graduating regular student with highest CGPA obtained graduating regular student among all the MIST medal winners



### Dean's List

- All regular students of all departments except Architecture department, earning minimum GPA 3.75 at the end of each academic level for level 1 to 3
- For graduating students of all departments except Architecture department earning minimum CGPA 3.75 considering results of entire program (i.e. level 1 to 4)
- For Architecture department students with earning minimum GPA 3.50 at the end of each academic level for level 1 to 4
- For graduating students of Architecture department earning minimum CGPA 3.50 considering results of entire program (i.e. level 1 to 5)

### MIST Scholarships

- MIST Scholarship is given to the regular students of each departments those are securing position from 1st to 5th as recognition of their academic performance in each term final examination.



# ELIGIBILITY FOR ADMISSION TEST

## Bangladeshi Students

Minimum qualifications to take part in the admission test are as follows:

- a. SSC Examination (or Equivalent).** The applicant must have passed the examination in Science Group obtaining a minimum GPA of 4.00 (without fourth subject) on the scale of 5.0. Only the applicants who passed SSC or Equivalent Examination in Corresponding current and previous one year can apply.
- b. HSC Examination (or Equivalent).** The applicants passed in current and previous one year must obtain minimum total grade point 17 in four subjects (Mathematics, Physics, Chemistry and English).
- c. GCE ('O' and 'A' Levels or Equivalent)**
  - (1) The applicant who passed in current and previous one year must have qualified with minimum 'B' grade in five subjects including Mathematics, Physics, Chemistry, and English in GCE 'O' Level.
  - (2) The applicant who passed in current and previous one year must have minimum two 'B' grades and one 'C' grade in Mathematics, Physics, and Chemistry in GCE 'A' Level.
- d.** Applicants interested in Biomedical Engineering must have Biology at HSC or equivalent level with a minimum grade point of 'A-' / GCE 'A' or equivalent level with a minimum grade point of 'C'.

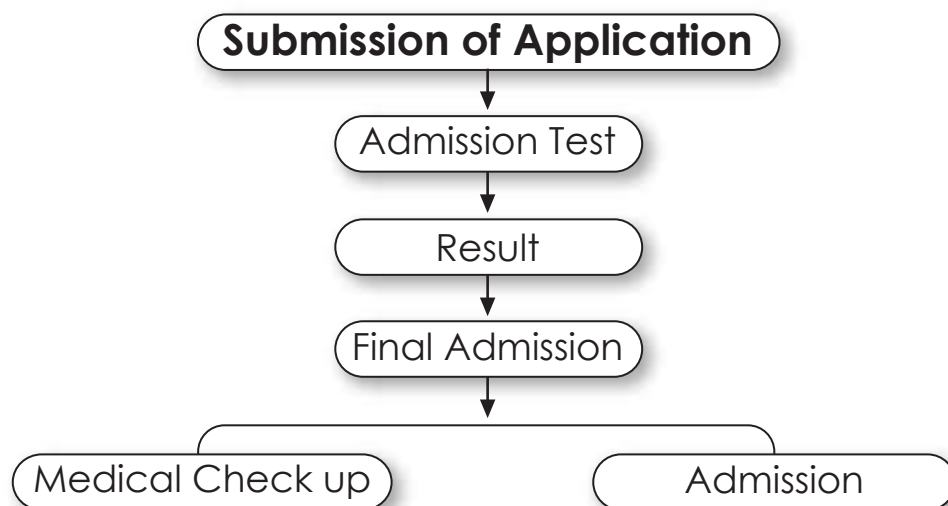
## Foreign Students

Maximum 3% of overall vacancies available will be kept reserved for the foreign students and will be offered to foreign countries through Armed Forces Division (AFD) of the Government of the Peoples Republic of Bangladesh. Applicants must fulfill the following requirements:

- Educational qualifications as applicable for Bangladeshi students or equivalent.
- Must have security clearance from respective Embassy/ High Commission in Bangladesh.
- Sex: Male and Female.

**Note:** In the event of non-availability of foreign students, the vacancies will be filled up by Bangladeshi civil students as per merit.

## SEQUENCE OF ADMISSION



### Documents are to be Submitted During Admission

- Original copies of certificates and mark sheet of SSC or Equivalent examination.
- Original copies of certificate and mark sheet of HSC or Equivalent examination.
- Three copies of recent passport size colored photograph of the candidate duly attested by class-I gazetted officer.
- Character certificate from the head of the last institute attended.
- Nationality Certificate from proper authority / Birth certificate / National ID Card.
- For the Children of Freedom Fighters, original copies of Freedom Fighter certificate of parents, issued by the Ministry of Liberation War Affairs, People's Republic of Bangladesh.
- For Tribal Citizen, original certificate as a tribal citizen issued by local UP Chairman and countersigned by concerned District Commissioner (DC).
- For Children of Military Personnel original certificate of authenticity, issued by respective Commanding Officers (For serving parents); and by CORO/ Naval Secretary/ Air Secretary/ Record Office/ Drafting Office (For retired parents).

### Department Allotment

Departments will be allotted on the basis of combined merit position. Individual choice for selection of departments will be given preference as far as possible.

### Guardian's Consent

In the admission form selected civil candidates and their parents or guardians have to render consent certificate accepting terms and conditions as required by MIST authority from time to time.



# MIST STUDENT WITHDRAWAL POLICY

## Introduction

1. Military Institute of Science & Technology (MIST), a pioneer technical institution of Bangladesh Armed Forces conducts undergraduate courses of various engineering disciplines, like, Civil Engineering (CE), Computer Science and Engineering (CSE), Electrical, Electronic and Communication Engineering (EECE), Mechanical Engineering (ME), Aeronautical Engineering (AE), Naval Architectures and Marine Engineering (NAME), Nuclear Science and Engineering (NSE), Environmental, Water Resources, and Coastal Engineering (EWCE), Biomedical Engineering (BME), Architecture (Arch), Petroleum & Mining Engineering (PME) and Industrial & Production Engineering (IPE). Since its beginning, all academics programs (including the MBA and Executive MBA programs) of MIST had been affiliated with the University of Dhaka (DU). On 05 June, 2008 the Bangladesh University of Professionals (BUP) came into existence as a new public university of the country. Since then all academic programs of MIST were disengaged from DU and have been affiliated with BUP. Again, the Management Division (BBA, MBA and Executive programs) of MIST was disengaged from MIST and remained with BUP in faculty of Business studies (FBS). Now, examinations of all engineering programs of MIST are held under the authority of BUP.
2. From the academic session 2017-18, MIST is introducing a course system for undergraduate studies. The rules and regulations for administering undergraduate curriculum through the Course System have been applicable to students henceforth. This new course system has been introduced with an aim of creating a continuous, even and consistent workload throughout the term for the students. This new curriculum does not demand the same rate of academic progress from all students for obtaining the degree but only lays down the pace expected of a normal student. A student whose background or capacity for assimilation is lower, he/she is permitted to complete the program at a slower pace by studying a fewer number of courses during a given term, subject to a minimum course load.
3. A definite standard of education and general discipline will be followed in every level of the program. The unsuccessful students will therefore be withdrawn from the institute.

## Definitions

### 4. Definition of the terms :

- a. **Permanent Withdrawal** The term 'Permanent Withdrawal' will imply a complete/permanent discontinuity from any course/program of the institute.
- b. **Temporary Withdrawal** The term 'Temporary Withdrawal' means that the student has been allowed by the Academic Council, MIST to discontinue temporarily from any course/program for a definite period. The student, so withdrawn, may re-enter the course as per terms and conditions set by the authority.
- c. **Permanent Expulsion** The term 'Permanent Expulsion' means expulsion permanently from the institution on disciplinary ground. A student, if expelled permanently will never be allowed to re-enter the course or similar program in MIST and be subjected to other terms and conditions as set by the authority while approving the permanent expulsion order.

**d. Temporary Expulsion** The term `Temporary Expulsion means expulsion from an academic course/program for a certain period on disciplinary ground. A student, if expelled temporarily, may be allowed to re-enter the course/program on expiry of the punishment period and on fulfilment of other terms and conditions (if any) as set by the authority while approving the temporary expulsion order.

**5.** The undergraduate (B.Sc) Engineering programs for all engineering disciplines are planned for 04 regular levels, comprising of 08 regular semester for Architecture program it is planned for 5 & regular levels, comprising of 10 regular terms. It is expected that all students will earn degree by clearing all the offered courses in the stipulated time. In case of failure the following policies will be adopted:

- a.** Students failing in any course/subject will have to clear/pass the said course/ subject by appearing it in supplementary/ self study (for graduating student) examination as per examination policy.
- b.** Students may also retake the failed subject/course in regular term/short term as per Examination policy.
- c.** Maximum grading for supplementary self study examination etc of failed subjects will be B+ as per examination policy.
- d.** One student can retake/reappear in a failed subject/course only twice. However, With the Permission of Academic Council of MIST, a student may be allowed for third time as last chance.
- e.** In case of sickness, which leads to missing of more than 40% classes or miss term final examination (supported by requisite medical documents), students may be allowed to withdraw temporarily from that term and repeat the whole level with the regular level in the next academic session, subject to the approval of Academic Council , MIST. However, he/she has to complete the whole undergraduate program within 06 (six) academic years ( for Architecture 07 academic years) from the date of his/her registration.
- f.** Minimum credit requirement for the award of bachelor's degree in Engineering (Bsc Engg) and Architecture (B. Arch) will be decide by the respective Department as per existing rules. However the minimum CGPA requirement for obtaining a bachelor degree in engineering and Architecture is 2.20.
- g.** Whatever may be the cases, students have to complete the whole undergraduate Program within 06 (six) academic years for B.Sc Engineering and 07 (seven) years for Bachelor of Architecture from the date of registration.
- h.** All other terms and condition of MIST Examination Policy remain valid.



## EXPULSION/ WITHDRAWAL ON DISCIPLINARY GROUND

6. **Unfair Means.** Adopting of unfair means may result in expulsion of a student from the program and so from the institution. The Academic Council of MIST will authorize such expulsion on the basis of recommendation of the Disciplinary Committee, MIST and as per policy approved by the affiliating university (BUP). Following would be considered as unfair means adopted during examinations and other contests:
  - a. Communicating with fellow students for obtaining help in the examinations.
  - b. Copying from another student's script/report/paper.
  - c. Copying from desk or palm of a hand or from other incriminating documents.
  - d. Possession of any incriminating document whether used or not.
7. **Influencing Grades** MIST Authority may expel/withdraw any student for approaching directly or indirectly in any form to influence a teacher or MIST authority for grades.
8. **Other Indiscipline Behaviour** MIST Authority may withdraw/expel any student on disciplinary ground, if any form of indiscipline or unruly behaviour is seen from him/her which may disrupt the academic environment/program or is considered detrimental to MIST's image.
9. **Immediate Action by the Disciplinary Committee of MIST** The Disciplinary Committee, MIST may take immediate disciplinary action against any student of the institution. But later the approval of BUP has to be taken. In case of withdrawal/expulsion, the matter will have to be referred later to the next academic Council, MIST.

## WITHDRAWAL ON OWN ACCORD

10. **Permanent Withdrawal** A Student who has already completed some courses and has not performed satisfaction may apply for a permanent withdrawal.
11. **Temporary Withdrawal** A student, if he/she applies, may be allowed to withdraw temporarily from the program, subject to approval of Academic Council of MIST, but he/she has to complete the whole program within 06 (six) academic years (for Architecture 07 academic years) from the date of his/her registration.

## STUDENTS' DRESS CODE

Non-military students are to wear dress with displayed identity card as per "Dress Code" prescribed by MIST authority. Military students will put on uniform as per dress regulation of respective services. Dress code for civil student is as follows:

| Male Student                                                                                                           |                                                                                                                                                                                         | Female Student                                                                                                                  |                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Summer                                                                                                                 | Winter                                                                                                                                                                                  | Summer                                                                                                                          | Winter                                                                                                                                                                             |
| Light Grey coloured full sleeve shirt (tucked in), Light Black coloured full pant, Black Oxford shoes and Black socks. | Light Grey coloured full sleeve shirt (tucked in), Light Black coloured full pant, Blue jersey pull over (V-necked) (Normal), MIST Blazer (Formal), Black Oxford shoes and Black socks. | Ash coloured three quarter sleeve Kamiz, White coloured Sallowar and Dopatta, Black ladies shoes and socks/ Black sandal shoes. | Ash coloured three quarter sleeve Kamiz, White coloured Sallowar and Dopatta, Navy Blue cardigan (Normal), MIST Blazer (Formal), Black ladies shoes and socks/ Black sandal shoes. |



**SUMMER**



**WINTER (Formal)**



**WINTER (Regular)**





# RULES AND REGULATIONS FOR UNDERGRADUATE PROGRAM AS PER COURSE SYSTEM

## Introduction

1. MIST has introduced course system for undergraduate studies from the academic session 2017-18. Therefore, the rules and regulations mentioned in this paper are applicable to students for administering undergraduate curriculum through the Course System. This has been introduced with an aim of creating a continuous, even and consistent workload throughout the term for the students.

## The Course System

2. The salient features of the Course System are as follows:
  - a. Number of theory courses will be generally 06 or as per syllabus in each term. However, with the recommendation of course coordinator and Head of the Department, Commandant MIST may allow up to 07 courses in exceptional cases if department can accommodate within 24 cr hr..
  - b. Students will not face any level repeat for failing.
  - c. Students will get scope to improve their grading.
  - d. Introduction of more optional courses to enable the students to select courses according to their individual needs and preferences.
  - e. Continuous evaluation of students' performance.
  - f. Promotion of student-teacher interaction and contact.
3. Beside the professional courses pertaining to each discipline, the undergraduate curriculum gives a strong emphasis on acquiring thorough knowledge in the basic sciences of mathematics, physics and chemistry. Due importance is also given on the study of several subjects in humanities and social sciences.
4. The first two years of bachelor's degree programs generally consist of courses in basic engineering, general science and humanities subjects; while the third and subsequent years focus in specific disciplines.

## Number of Terms in a Year

5. There will be two terms Spring Term (Jan-Jun) and Fall Term (Jul-Dec) in an academic year.

## Duration of Terms

6. The duration of each of Spring Term and Fall Term (maximum 22 weeks) may be as under:

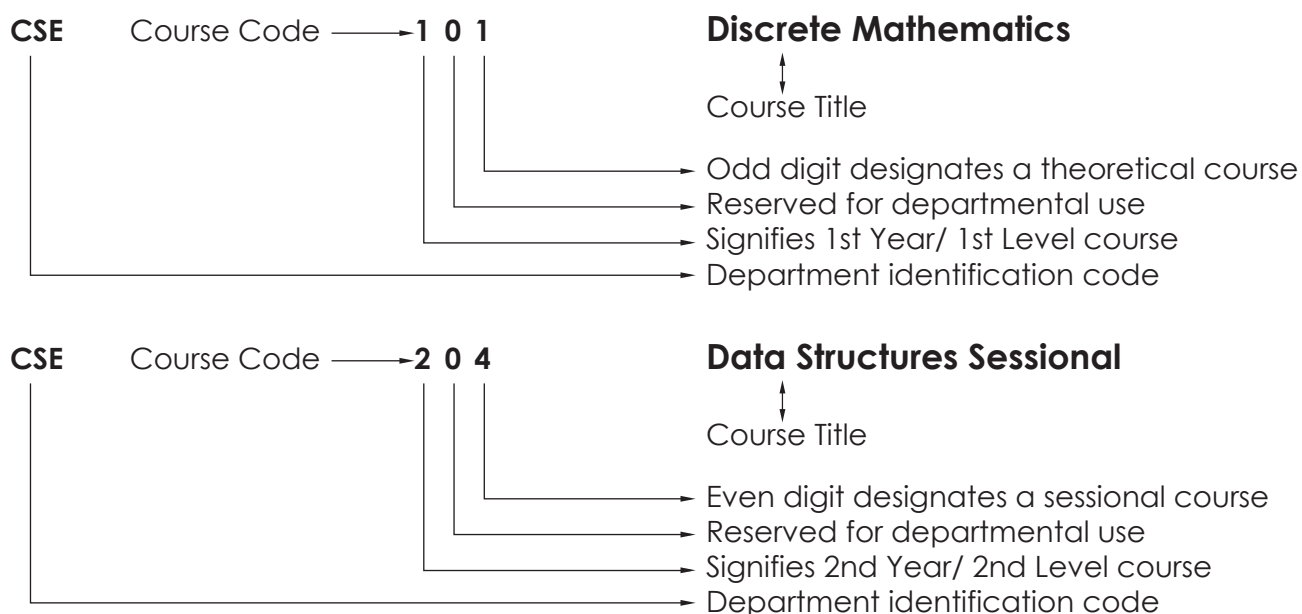
| Ser | Events                               | Durations |
|-----|--------------------------------------|-----------|
| 1.  | Classes before Mid Term              | 7 weeks   |
| 2.  | Mid Term Vacation                    | 1 week    |
| 3.  | Classes after Mid Term               | 7 weeks   |
| 4.  | Makeup Classes and Preparatory leave | 2/3 weeks |
| 5.  | Term Final Examination               | 2/3 weeks |
| 6.  | Term End Vacation                    | 1/2 week  |

## Course Pattern and Credit Structure

7. The undergraduate program is covered by a set of theoretical courses along with a set of laboratory (sessional) courses to support them.

## Course Designation System

8. Each course is designated by a maximum of three/four letter code identifying the department offering the course followed by a three-digit number having the following interpretation:
- The first digit corresponds to the year/level in which the course is normally taken by the students.
  - The second digit is reserved for departmental use. It usually identifies a specific area/group of study within the department.
  - The last digit is an odd number for theoretical courses and an even number for sessional courses.
9. The course designation system is illustrated as follows:



## Assignment of Credits

10. The assignment of credits to a theoretical course follows a different rule from that of a sessional course.
- Theoretical Courses: One lecture per week per term is equivalent to one credit.
  - Sessional Courses: Credits for sessional courses is half of the class hours per week per term.

Credits are also assigned to project and thesis work taken by the students. The amount of credits assigned to such work varies from one discipline to another.



## Types of Courses

11. The types of courses included in the undergraduate curricula are divided into the following groups:
- a. Core Courses:** In each discipline, a number of courses are identified as core courses, which form the nucleus of the respective bachelor's degree program. A student has to complete all the designated core courses of his/her discipline.
  - b. Prerequisite Courses:** Some of the core courses are identified as prerequisite courses for a specific subject.
  - c. Optional Courses:** Apart from the core courses, the students can choose from a set of optional courses. A required number of optional courses from a specified group have to be chosen.

## Course Offering and Instruction

12. The courses to be offered in a particular term are announced and published in the Course Catalog along with the tentative Term Schedule before the end of the previous term. The courses to be offered in any term will be decided by Board of Undergraduate Studies (BUGS) of the respective department.
13. Each course is conducted by a course teacher who is responsible for maintaining the expected standard of the course and for the assessment of students' performance. Depending on the strength of registered students (i.e. on the number of students) enrolled for the course, the teacher concerned might have course associates and Teaching Assistants (TA) to aid in teaching and assessment.

## Teacher Student Interaction

14. The new course system encourages students to come in close contact with the teachers. For promotion of a high level of teacher-student interaction, each student is assigned to an adviser and the student is free to discuss all academic matters with his/her adviser. Students are also encouraged to meet any time with other teachers for help and guidance in academic matters. However, students are not allowed to interact with teachers after the moderation of questions.

## Student Adviser

15. One adviser is normally appointed for a group of students by the BUGS of the concerned department. The adviser advises each student about the courses to be taken in each term by discussing the academic program of that particular term with the student.
16. However, it is also the student's responsibility to keep regular contact with his/her adviser who will review and eventually approve the student's specific plan of study and monitor subsequent progress of the student.
17. For a student of second and subsequent terms, the number and nature of courses for which he/she can register is decided on the basis of academic performance during the previous term. The adviser may permit the student to drop one or more courses based on previous academic performance.

## Course Registration

18. Any student who uses classroom, laboratory facilities or faculty-time is required to register formally. Upon admission to the MIST, students are assigned to advisers. These advisers guide the students in choosing and registering courses.

19. **Registration Procedure.** At the commencement of each term, each student has to register for courses online in consultation with and under the guidance of his/her adviser. The date, time and venue of registration are announced in advance by the Registrar's Office. Counselling and advising are accomplished at this time. It is absolutely essential that all the students be present for registration at the specified time.

### 20. Pre-conditions for Registration.

- a. For first year students, department-wise enrollment/admission is mandatory prior to registration. At the beginning of the first term, an orientation program will be conducted for them where they are handed over with the registration package on submission of the enrolment slip.
- b. Any student, other than the new batch, with outstanding dues to the MIST or a hall of residence is not permitted to register. Each student must clear their dues and obtain a clearance certificate, upon production of which, he/she will be given necessary Course Registration Forms to perform course registration.
- c. A student is allowed to register in a particular course subject to the class capacity constraints and satisfaction of pre-requisite courses. However, even if a student fails in a pre-requisite course in any term, the concerned department (BUGS) may allow him/her to register for a course which depends upon the pre-requisite course provided that his/her attendance and performance in the continuous assessment of the mentioned pre-requisite course is found to be satisfactory.

21. **Registration Deadline.** Each student must register for the courses to be taken before the commencement of each term. Late registration is permitted only during the first week of classes. Late registration after this date will not be accepted unless the student submits a written application to the registrar through the concerned Head of the department explaining the reasons for delay. Acceptable reasons may be medical problems with supporting documents from the Medical Officer of MIST or some other academic commitments that prohibit enrollment prior to the last date of registration.

22. **Penalty for Late Registration.** Students who fail to register during the designated dates for registration are charged a late registration fee of Tk. 100.00 (One hundred only) per credit hours. Under no circumstances, the penalty for late registration will be waived.

## Limits on the Credit Hours to be taken

23. A student should be enrolled for at least 15 credit hours and is allowed to take a maximum of 24 credit hours. Relaxation on minimum credit hours may be allowed. A student must enroll for the sessional courses prescribed in a particular term within the allowable credit hour limits.



24. In special cases where it is not possible to allot the minimum required 15 credit hours to a student, the concerned department (BUGS) may permit with the approval of the Commandant, a lesser number of credit hours to suit individual requirements. Only graduating students may be allowed to register less than 15 credit hours without approval of Commandant. A list of all such cases to be forwarded to Register Office, ICT directorate and Controller of Exam Office by the respective Department.

## **Course Add/Drop**

25. A student has some limited options to add or drop courses from the registration list. Addition of courses is allowed only within the first two weeks of a regular term. Dropping a course is permitted within the first four weeks of a regular term. Add or drop is not allowed after registration of courses for Supplementary-I and Supplementary-II examination.

26. Any student willing to add or drop courses has to fill up a Course Adjustment Form. This also has to be done in consultation with and under the guidance of the student's respective adviser. The original copy of the Course Adjustment Form has to be submitted to the Registrar's Office, where the required numbers of photocopies are made for distribution to the concerned adviser, Head, Dean, Controller of Examinations and the student.

27. All changes must be approved by the adviser and the Head of the concerned department. The Course Adjustment Form has to be submitted after being signed by the concerned persons.

## **Withdrawal from a Term**

28. If a student is unable to complete the Term Final Examination due to serious illness or serious accident, he/she may apply to the Head of the degree awarding department for total withdrawal from the term before commencement of term final examination. However, application may be considered during term final examination in special case. The application must be supported by a medical certificate from the Medical Officer of MIST. The Academic Council will take the final decision about such applications. However, the total duration for graduation will not exceed 6 academic years.

## **The Grading System**

29. The total performance of a student in a given course is based on a scheme of continuous assessment for theory courses. This continuous assessment is made through a set of quizzes, class tests, class evaluation, class participation, homework assignment and a term final examination. The assessments for sessional courses are made by evaluating performance of the student at work during the class, viva-voce during laboratory hours and quizzes. Besides that, at the end there will be a final lab test. Each course has a certain number of credits, which describes its corresponding weightages. A student's performance is measured by the number of credits completed satisfactorily and by the weighted average of the grade points earned. A minimum grade point average (GPA) is essential for satisfactory progress. A minimum number of earned credits also has to be acquired in order to qualify for the degree.

Letter grades and corresponding grade points will be given as follows:

| Numerical Markings | Grade | Grade Points                 |
|--------------------|-------|------------------------------|
| 80% and above      | A+    | 4.00                         |
| 75% to below 80%   | A     | 3.75                         |
| 70% to below 75%   | A-    | 3.50                         |
| 65% to below 70%   | B+    | 3.25                         |
| 60% to below 65%   | B     | 3.00                         |
| 55% to below 60%   | B-    | 2.75                         |
| 50% to below 55%   | C+    | 2.50                         |
| 45% to below 50%   | C     | 2.25                         |
| 40% to below 45%   | D     | 2.00                         |
| below 40%          | F*    | 0.00                         |
|                    | AB    | Absent                       |
|                    | DC    | Dis-collegiate               |
|                    | VW    | Voluntary Withdrawn          |
|                    | X     | Project/ Thesis Continuation |
|                    | E     | Expelled                     |
|                    | S     | Satisfactory                 |

\* Subject in which the student gets F grade shall not be regarded as earned credit hours for the calculation of Grade Point Average (GPA).

## Distribution of Marks

30. **Theory.** Forty percent (40%) of marks of a theoretical course shall be allotted for continuous assessment, i.e. assignments, class tests, pop quizzes, observations, projects and mid-term assessment. These marks must be submitted to Office of the Controller of Exam before commencement of final exam. The rest of the marks will be allotted to the Term Final Examination. The duration of final examination will be three (03) hours. The scheme of continuous assessment that a particular teacher would follow for a course will be announced on the first day of the classes. Distribution of marks for a given course per credit is as follows:

|                                     |             |
|-------------------------------------|-------------|
| Class Performance                   | 5%          |
| Class Attendance                    | 5%          |
| Class Test/ Assignment              | 20%         |
| Mid Term Assessment (Exam/ Project) | 10%         |
| Final Examination (Section A & B)   | 60%         |
| <b>Total</b>                        | <b>100%</b> |

**Basis for awarding marks for class Attendance will be as follows:**

| Class Attendance     | Marks |
|----------------------|-------|
| 90% and above        | 100%  |
| 85% to less than 90% | 90%   |
| 80% to less than 85% | 80%   |
| 75% to less than 80% | 70%   |
| 70% to less than 75% | 60%   |
| Below 70%            | 00%   |



**Note:**

- a. In final exam, each section can be used for achieving not more than two course outcomes (COs). The remaining COs should be attained from mid-term assessment or class tests. Course teacher has to inform the student the beginning of the terms.
- b. Course teacher of a particular course has to inform the department whether he/she wants to assess mid-term through exam or project within first two weeks of beginning of a term. The duration of mid-term examination should not be more than 50 minutes which has to be conducted in between 6th to 9th week of a semester. If mid-term assessment is done through project, then there should be project report and presentation.
- c. The weightage of class performance can be assessed through checking attentiveness during classes or arranging unnoticed pop quizzes.
- d. The number of class tests shall be  $n$  for 3.0 and above credit courses and  $(n-1)$  shall be considered for grading where  $n$  is the number of credits of the course. However, for courses having credits below 3.0, the considered class tests shall be 2 out of 3.
- e. All class test will carry 20 marks each. Exam software system will finally convert these achieved marks into total class test marks as per credit hour. i.e for  $n=1$  (20),  $n=2$  (40),  $n=3$  (60),  $n=4$  (80) etc.
- f. Irrespective of the result of the continuous assessment (class performance, class test, mid-term assessment), a student has to appear in the final examination (where applicable) for qualifying/passing the concern course/ subject.

**31. Laboratory/ Sessional/ Practical Examinations** Sessional courses are designed and conducted by the concerned departments. Examination on Laboratory/ sessional/practical subjects will be conducted by the respective department before the commencement of term final examination. The date of practical examination will be fixed by the respective department. Students will be evaluated in the sessional courses on the basis of the followings.

|                                                    |             |
|----------------------------------------------------|-------------|
| a. Conduct of lab test/ class performance          | 25%         |
| b. Report Writing/ Programming                     | 15%         |
| c. Mid Term Evaluation (exam/ project/ assignment) | 20%         |
| d. Final Evaluation (exam/ project/ assignment)    | 30%         |
| e. Viva Voce/ Presentation                         | 10%         |
| <b>Total</b>                                       | <b>100%</b> |

**32. Laboratory/ Sessional Course in English** The distribution will be as under:

|                                  |             |
|----------------------------------|-------------|
| a. Class performance/observation | 10%         |
| b. Written Assignment            | 15%         |
| c. Oral Performance              | 25%         |
| d. Listening Skill               | 10%         |
| e. Group Presentation            | 30%         |
| f. Viva Voce                     | 10%         |
| <b>Total</b>                     | <b>100%</b> |

**33. Class Attendance** Class Attendance may be considered as a part of continuous assessment. No mark will be allotted for attending class.

## Collegiate and Non-collegiate

34. Students having class attendance of 85% or above in individual subject will be treated as collegiate and less than 85% and up to 70% will be treated as non-collegiate in that subject. The non-collegiate student(s) may be allowed to appear in the examination subject to payment of non-collegiate fee/fine of an amount fixed by MIST/BUP. Students having class attendance below 70% will be treated as dis-collegiate and will not be allowed to appear in the examination and treated as fail. But in a special case such students may be allowed to appear in the examination with the permission of Commandant and it must be approved by the Academic Council.

## Calculation of CGPA

35. Grade Point Average (GPA) is the weighted average of the grade points obtained of all the courses passed/ completed by a student. For example, if a student passes/completes n courses in a term having credits of C1, C2, ..., Cn and his grade points in these courses are G1, G2, ..., Gn respectively, then

$$\text{GPA} = \frac{\text{Grade Points earned in the semester}}{\text{Credits completed in the semester}}$$

$$\frac{\text{Summation of (Credit hours in a course * Grade Points earned in that course)}}{\text{Total number of credit hour's completed}}$$

$$= \frac{\sum_{i=1}^n C_i * G_i}{\sum_{i=1}^n C_i}$$

36. The Cumulative Grade Point Average (CGPA) is the weighted average of the GPA obtained in all the terms passed/completed by a student. For example, if a student passes/ completes n terms having total credits of TC1, TC2, ... , TCn and his GPA in these terms are GPA1, GPA2, ..., GPAn, respectively then

$$\text{CGPA} = \frac{\sum_{i=1}^n TC_i * GPA_i}{\sum_{i=1}^n TC_i}$$



## Numerical Example

Suppose a student has completed nine courses in a term and obtained the following grades:

| Course       | Credit Ci    | Grade Points | Gi   | Ci*Gi        |
|--------------|--------------|--------------|------|--------------|
| EECE-163     | 3.00         | A            | 3.75 | 11.25        |
| EECE-164     | 0.75         | A+           | 4.00 | 3.00         |
| MATH-141     | 3.00         | A-           | 3.50 | 10.50        |
| PHY-103      | 3.00         | B+           | 3.25 | 9.75         |
| HUM-101      | 3.00         | A            | 3.75 | 11.25        |
| HUM-102      | 1.50         | A            | 3.75 | 5.625        |
| CSE-101      | 3.00         | A            | 3.75 | 11.25        |
| CSE-103      | 3.00         | A-           | 3.50 | 10.50        |
| CSE-104      | 1.5          | B+           | 3.25 | 4.875        |
| <b>Total</b> | <b>21.75</b> |              |      | <b>78.00</b> |

$$GPA = \frac{78.00}{21.75} = 3.59$$

Suppose a student has completed four terms and obtained the following GPA:

| Level        | Term | Earned Credit Hours | Earned GPA | TCi*GPAi       |
|--------------|------|---------------------|------------|----------------|
|              |      | Tci                 | GPAi       |                |
| 1            | I    | 21.75               | 3.75       | 81.5625        |
| 1            | II   | 20.75               | 3.61       | 74.9075        |
| 2            | I    | 19.50               | 3.21       | 62.595         |
| 2            | II   | 21.00               | 2.98       | 62.58          |
| <b>Total</b> |      | <b>83.00</b>        |            | <b>281.645</b> |

$$CGPA = \frac{281.645}{83} = 3.39$$

## Impacts of Grade Earned

37. The courses in which a student has earned a 'D' or a higher grade will be counted as credits earned by him/her. Any course in which a student has obtained an 'F' grade will not be counted towards his/her earned credits or GPA calculation. However, the 'F' grade will remain permanently on the Grade Sheet and the Transcript.
38. A student who obtains an 'F' grade in a core course will have to repeat that particular course. However, if a student gets an 'F' in an optional course, he/she may choose to repeat that course or take a substitute course if available. When a student will repeat a course in which he/she has previously obtained an 'F', he/she will not be eligible to get a grade better than 'B+' in that repeated course.

39. If a student obtains a grade lower than 'B+' in a particular course he/she will be allowed to repeat the course only once for the purpose of grade improvement. However, he/she will not be eligible to get a grade better than 'B+' for an improvement course.
40. A student will be permitted to repeat for grade improvement purposes a maximum of 6 courses in BSc. Engineering programs and a maximum of 7 courses in B. Arch. program.
41. If a student obtains a 'B+' or a better grade in any course he/she will not be allowed to repeat the course for the purpose of grade improvement.

## Classification of Students

42. At MIST, regular students are classified according to the number of credit hours completed/earned towards a degree. The following classification applies to all the students:

| Level   | Credit Hours Earned     |                          |
|---------|-------------------------|--------------------------|
|         | Engineering/URP         | Architecture             |
| Level 1 | 0.0 to 36.0             | 0.0 to 34.0              |
| Level 2 | More than 36.0 to 72.0  | More than 34.0 to 72.0   |
| Level 3 | More than 72.0 to 108.0 | More than 72.0 to 110.0  |
| Level 4 | More than 108.0         | More than 110.0 to 147.0 |
| Level 5 |                         | More than 147.0          |

43. However, before the commencement of each term all students other than new batch are classified into three categories:
- Category 1:** This category consists of students who have passed all the courses described for the term. A student belonging to this category will be eligible to register for all courses prescribed for the upcoming term.
  - Category 2:** This category consists of students who have earned a minimum of 15 credits but do not belong to category 1. A student belonging to this category is advised to take at least one course less since he might have to register for one or more backlog courses as prescribed by his/her adviser.
  - Category 3:** This category consists students who have failed to earn the minimum required 15 credits in the previous term. A student belonging to this category is advised to take at least two courses less than a category 1 student subject to the constraint of registering at least 15 credits. However, he will also be required to register for backlog courses as prescribed by the adviser.
44. **Definition of Graduating Student** Graduating students are those students who will have  $\leq$  24 credit hour for completing the degree requirement.

## Performance Evaluation

45. The performance of a student will be evaluated in terms of two indices, viz. Term Grade Point Average and Cumulative Grade Point Average which is the grade average for all the terms completed.
46. Students will be considered to be making normal progress toward a degree if their Cumulative Grade Point Average (CGPA) for all work attempted is 2.20 or higher. Students who regularly maintain a term GPA of 2.20 or better are making good progress toward the degrees and are in good standing with MIST. Students who fail to maintain this minimum rate of progress will not be in good standing. This can happen when any one of the following conditions exists.



- a. The term GPA falls below 2.20.
- b. The Cumulative Grade Point Average (CGPA) falls below 2.20.
- c. The earned number of credits falls below 15 times the number of terms attended.

47. All such students can make up their deficiencies in GPA and credit requirements by completing courses in the subsequent term(s) and backlog courses, if there are any, with better grades. When the minimum GPA and credit requirements are achieved the student is again returned to good standing.

## Minimum Earned Credit and GPA Requirement for Obtaining Degree

48. Minimum credit hour requirements for the award of Bachelor's degree in engineering (BSc Engg) and architecture (B Arch) will be decided by the respective department (BUGS). However, the syllabus of all BSc engineering prog must be of minimum 157 credit hours or more and for architecture prog minimum 189 credit hours or more. A student must earn minimum credit hour set in the syllabus by the concerned department for qualifying Bachelor's Degree. The minimum CGPA requirement for obtaining a Bachelor's degree in engineering and architecture is 2.20.

49. A student may take additional courses with the consent of his/her Adviser in order to raise CGPA, but he/she may take a maximum of 15 such additional credits in engineering and 18 such additional credits in architecture beyond respective credit-hour requirements for Bachelor's degree during his/her entire period of study.

## Application for Graduation and Award of Degree

50. A student who has fulfilled all the academic requirements for Bachelor's degree will have to apply to the Controller of Examinations through his/her Adviser for graduation. Provisional Degree will be awarded by BUP on completion of credit and GPA requirements.

## Time Limits for Completion of Bachelor's Degree

51. A student must complete his studies within a maximum period of six years for engineering and seven years for architecture bachelor's degree.

## Attendance, Conduct and Discipline

52. MIST has strict rules regarding the issues of attendance in class and discipline.

53. **Attendance.** All students are expected to attend classes regularly. MIST believes that attendance is necessary for effective learning. The first responsibility of a student is to attend classes regularly and one is required to attend the classes as per MIST rules.

54. **Conduct and Discipline.** During their stay in MIST all students are required to abide by the existing rules, regulations and code of conduct. Students are strictly forbidden to form or be members of student organization or political party, club, society etc., other than those set up by MIST authority in order to enhance student's physical, intellectual, moral and ethical development. Zero tolerance in regards of sexual abuse and harassment in any forms and drug abuse and addiction are strictly observed in the campus.

## Teacher-Student Interaction

55. The academic system in MIST encourages students to come in close contact with the teachers. For promotion of high level of teacher-student's interaction, a course coordinator (CC) is assigned to each course. Students are free to discuss with CC about all academic matters. Students are also encouraged to meet other teachers any time for help and guidance for academic matters. Heads of the departments, Director of Administration, Director of Students Welfare (DSW), Dean and Commandant address the students at some intervals. More so, monthly Commandant's Parade is organized in MIST where all faculty members, staff and students are formed up, thereby increasing teacher-student interaction.

## Absence during a Term

56. A student should not be absent from quizzes, tests, etc. during the term. Such absence will naturally lead to reduction in points/marks, which count towards the final grade. Absence in the Term Final Examination will result in an F grade in the corresponding course. A student who has been absent for short periods, up to a maximum of three weeks due to illness, should approach the course teacher(s) or the course (s) for make-up quizzes or assignments immediately upon return to classes. Such request has to be supported by medical certificate from competent authority (e.g. CMH/MIST Medical Officer).

## Recognition of Performance

57. As recognition of performance and ensure continued studies MIST awards medals, scholarships and stipends will be given as per existing rules and practices.

## Types of Different Examination

58. Following different types of final Examinations will be conducted in MIST to evaluate the students of Undergraduate Programs:

- a. **Term Final Examination:** At the end of each normal term (after 22wk or so), Term Final Examination will be held. Students will appear in the Term Final Examination for all the theory courses they have taken in the Term.
- b. **Supplementary Examination:** It will take place twice in a year. Supplementary-I is defined as provision of giving exam in the first week of Spring Term (Jan-Jun) / Fall Term (Jul-Dec) end break and Supplementary-II in the first week of Fall Term (Jul-Dec) / Spring Term (Jan-Jun) end break, respectively. Students will be allowed to register for a maximum of two theory courses (Failed/Improvement) in Supplementary-I and maximum of one theory course (Failed/Improvement) in Supplementary-II. However, with the approval of Commandant, in special circumstances, departments may allow students to register for a maximum of one theory courses (Failed/Improvement) in Supplementary-I and maximum of two theory courses (Failed/Improvement) in Supplementary-II. Total courses to register by a student in supplementary examination in a year can not be more than three.
- c. **Improvement Examination:** It will be taken during Supplementary-I and Supplementary-II Examination. Questions will be same as the question of the regular examination of that Supplementary Examination (if any). Student can take maximum two subjects at



a time (two subjects in supplementary-I and one subject in supplementary-II) and maximum 6 subjects in the whole academic duration. If a student obtains a grade lower than 'B+' in a course, he/she will be allowed to repeat the course only once for grade improvement. However, he/she will not be eligible to get a grade better than 'B+' for an improvement course. Among the previous result and improvement examination result, best one will be considered as final result for an individual student. However, performance of all examination i.e. previous to improvement examination, shall be reflected in the transcript.

## Rules of Different Examinations

**59. Term Final Examination.** Following rules to be followed:

- a. Registration to be completed before commencement of the Term. A student has to register his desired courses paying registration, examination fee and other related fees.
- b. Late registration will be allowed without penalty within first two weeks of the term.
- c. Within 1st two weeks of a term a student can Add/Drop course/courses. To add a course, in the 3rd week, one has to register the course by paying additional fees. To drop a course, one has to apply within three weeks and paid fees will be adjusted/refunded. If anyone wants to drop a course after three weeks and within 4 weeks, that will be permitted but paid fees will not be refunded in that case.
- d. Registrar office will finalize registration of all courses within 7 (seven) weeks, issue registration slip and that will be followed by issuing Admit Card.
- e. Term Final Examination to be conducted in the 18-20th week of the term as per approved Academic Calendar.

**60. Supplementary Examination.** Following rules are to be followed:

- a. Supplementary-I is defined as provision of giving exam in the first week of Spring Term (Jan-Jun) / Fall Term (Jul-Dec) end break and Supplementary-II in the first week of Fall Term (Jul-Dec) / Spring Term (Jan-Jun) end break, respectively.
- b. Students will be allowed to register for a maximum of two theory courses (Failed/Improvement) in Supplementary-I and maximum of one theory course (Failed/Improvement) in Supplementary-II. However, with the approval of Commandant, in special circumstances, departments may allow students to register for a maximum of one theory courses (Failed/Improvement) in Supplementary-I and maximum of two theory courses (Failed/Improvement) in Supplementary-II. Total courses to register by a student in supplementary examination in a year can not be more than three,
- c. No class will be conducted.
- d. 40% marks will be considered from the previous exams.
- e. Maximum grading in Supplementary Exam will be 'B+'.
- f. No Sessional Exam will be conducted.
- g. Examination will be taken on 60% marks like Term Final Examination.
- h. If a student fails in a course more than once in regular terms, then for calculating 40% marks best one of all continuous assessment marks will be counted.
- j. If anyone fails in the laboratory/sessional course, that course cannot be taken in the supplementary examination.
- k. If any student fails in a course, he can clear the course retaking it 2nd time or, he can clear the examination appearing at the supplementary examination as well. Any one fails twice in a course, can only retake it in the regular term for appearing third time. But anyone fails even after appearing third time. He/she has to take approval of

Academic Council of MIST for appearing 4th (last) time in a course and need to pay extra financial penalty. If any student fails even 4th time in a course, will not be allowed to appear anymore in this same course.

- l. Registration of Supplementary-I Exam to be done within 5th wk after completion of Fall Term (July to Dec) and registration of Supplementary-II exam to be done during the Mid-Term break of Spring Term (Jan to Jun), paying all the required fees.
- m. There will be no provision for add/drop courses after registration.
- n. Question Setting, Moderation, and Result Publication to be done following the same rules of Spring (Jan to Jun) / Fall (July to Dec) Term Final Exam as per existing Examination Policy.
- p. Moderation of the questions for Supplementary-I will be done in the 5th week after completion of Fall Term (July to Dec) Final Exam and Supplementary-II with the moderation of the questions of Spring Term (Jan to Jun).
- q. Separate Tabulation sheet to be made.
- r. **Thesis:** if a student cannot complete thesis in two consecutive terms, with the recommendation of the supervisor, he/she may continue for next one/two term within six academic years.<sup>62</sup>.

**61. Improvement Examination.** Following rules to be followed:

- a. Improvement examination is to be taken during the Supplementary-I and Supplementary-II examinations.
- b. For Improvement examination, registration is to be done during the registration of Supplementary-I and Supplementary-II examinations by paying all the fees.
- c. Question Setting, Moderation and Result Publication to be done with courses of Supplementary-I and Supplementary-II examinations.
- d. Any student gets a grading below 'B+' and desires to improve that course; he will be allowed to appear the improvement examination for that particular course.
- e. Highest grade of Improvement examination will be 'B+'.
- f. One student is allowed to appear at Improvement exam in 6 (six) courses in his whole graduation period taking maximum two courses at a time (two courses at supplementary-I and one course at supplementary-II).

## Irregular Graduation

62. If any graduating student clears his/her failed course in Spring Term/Fall Term/Supplementary examinations and his graduation requirements are fulfilled, his graduation will be effective from the result publication date of Spring Term/Fall Term/Supplementary examinations and that student will be allowed to apply for provisional certificate.

## Conclusion

63. MIST is committed in conferring degrees to the students in time which plays a very vital role in steering all academic activities of any university/institute. At the beginning MIST conducted all its examinations under the examination section of the University of Dhaka. IN June 2008, MIST got affiliation with BUP. Since then MIST has been conducting all its examinations under the control and authority of BUP. For the need of time, former MIST examination policy was reviewed several times. Present Review Committee has made necessary amendment/addition/deletion to suit the proposed course system. This policy may be reviewed every after 05 (five) years or as and when felt necessary by the authority of MIST.



# DISTRIBUTION OF CREDIT HOURS

## FACULTY OF CIVIL ENGINEERING

### CE Department

| Level               | Term | Credit Hour |
|---------------------|------|-------------|
| 1                   | I    | 20.00       |
|                     | II   | 20.00       |
| 2                   | I    | 20.00       |
|                     | II   | 20.00       |
| 3                   | I    | 19.00       |
|                     | II   | 20.50       |
| 4                   | I    | 20.50       |
|                     | II   | 20.00       |
| Total Credit Hours: |      | 160.00      |

### Arch Department

| Level               | Term | Credit Hour |
|---------------------|------|-------------|
| 1                   | I    | 19.00       |
|                     | II   | 20.50       |
| 2                   | I    | 21.00       |
|                     | II   | 21.00       |
| 3                   | I    | 19.50       |
|                     | II   | 19.50       |
| 4                   | I    | 17.50       |
|                     | II   | 17.50       |
| 5                   | I    | 17.50       |
|                     | II   | 16.00       |
| Total Credit Hours: |      | 189.00      |

### EWCE Department

| Level               | Term | Credit Hour |
|---------------------|------|-------------|
| 1                   | I    | 19.50       |
|                     | II   | 18.50       |
| 2                   | I    | 20.50       |
|                     | II   | 18.50       |
| 3                   | I    | 20.50       |
|                     | II   | 22.00       |
| 4                   | I    | 20.50       |
|                     | II   | 20.00       |
| Total Credit Hours: |      | 160.00      |

### PME Department

| Level               | Term | Credit Hour |
|---------------------|------|-------------|
| 1                   | I    | 18.00       |
|                     | II   | 19.50       |
| 2                   | I    | 23.00       |
|                     | II   | 20.50       |
| 3                   | I    | 19.50       |
|                     | II   | 21.00       |
| 4                   | I    | 19.00       |
|                     | II   | 19.50       |
| Total Credit Hours: |      | 160.00      |

## FACULTY OF ELECTRICAL AND COMPUTER ENGINEERING

### CSE Department

| Level               | Term | Credit Hour |
|---------------------|------|-------------|
| 1                   | I    | 20.75       |
|                     | II   | 19.25       |
| 2                   | I    | 20.25       |
|                     | II   | 21.50       |
| 3                   | I    | 20.25       |
|                     | II   | 19.50       |
| 4                   | I    | 19.25       |
|                     | II   | 19.25       |
| Total Credit Hours: |      | 160.00      |

### EECE Department

| Level               | Term | Credit Hour |
|---------------------|------|-------------|
| 1                   | I    | 18.50       |
|                     | II   | 18.50       |
| 2                   | I    | 20.00       |
|                     | II   | 19.00       |
| 3                   | I    | 21.50       |
|                     | II   | 21.00       |
| 4                   | I    | 21.00       |
|                     | II   | 20.50       |
| Total Credit Hours: |      | 160.00      |

## FACULTY OF MECHANICAL ENGINEERING

### ME Department

| Level               | Term | Credit Hour |
|---------------------|------|-------------|
| 1                   | I    | 20.50       |
|                     | II   | 18.00       |
| 2                   | I    | 18.00       |
|                     | II   | 21.50       |
| 3                   | I    | 21.50       |
|                     | II   | 19.50       |
| 4                   | I    | 21.50       |
|                     | II   | 19.50       |
| Total Credit Hours: |      | 160.00      |

### AE Department

| Level               | Term | Credit Hour |          |
|---------------------|------|-------------|----------|
|                     |      | Aerospace   | Avionics |
| 1                   | I    | 19.25       | 19.25    |
|                     | II   | 21.25       | 21.25    |
| 2                   | I    | 18.75       | 21.75    |
|                     | II   | 22.50       | 22.50    |
| 3                   | I    | 20.75       | 20.00    |
|                     | II   | 20.50       | 20.25    |
| 4                   | I    | 18.50       | 18.50    |
|                     | II   | 18.50       | 16.50    |
| Total Credit Hours: |      | 160.00      | 160.00   |

### NAME Department

| Level               | Term | Credit Hour |
|---------------------|------|-------------|
| 1                   | I    | 20.00       |
|                     | II   | 21.00       |
| 2                   | I    | 20.00       |
|                     | II   | 19.50       |
| 3                   | I    | 20.50       |
|                     | II   | 20.50       |
| 4                   | I    | 19.00       |
|                     | II   | 19.50       |
| Total Credit Hours: |      | 160.00      |

### IPE Department

| Level               | Term | Credit Hour |
|---------------------|------|-------------|
| 1                   | I    | 18.00       |
|                     | II   | 18.25       |
| 2                   | I    | 23.00       |
|                     | II   | 21.00       |
| 3                   | I    | 21.25       |
|                     | II   | 21.00       |
| 4                   | I    | 21.00       |
|                     | II   | 16.50       |
| Total Credit Hours: |      | 160.00      |

## FACULTY OF SCIENCE AND ENGINEERING

### BME Department

| Level               | Term | Credit Hour |
|---------------------|------|-------------|
| 1                   | I    | 18.50       |
|                     | II   | 19.00       |
| 2                   | I    | 18.50       |
|                     | II   | 21.00       |
| 3                   | I    | 21.50       |
|                     | II   | 19.50       |
| 4                   | I    | 21.50       |
|                     | II   | 20.50       |
| Total Credit Hours: |      | 160.00      |

### NSE Department

| Level               | Term | Credit Hour |
|---------------------|------|-------------|
| 1                   | I    | 18.50       |
|                     | II   | 21.50       |
| 2                   | I    | 20.25       |
|                     | II   | 20.75       |
| 3                   | I    | 20.00       |
|                     | II   | 19.75       |
| 4                   | I    | 20.50       |
|                     | II   | 18.75       |
| Total Credit Hours: |      | 160.00      |



# DISTRIBUTION OF MARKS

## Theory Courses

Forty percent (40%) of marks of a theoretical course shall be allotted for Continuous Assessment, i.e. assignments, class tests, pop quizzes, observations, projects and mid-term assessment. These marks must be submitted to Office of the Controller of Examinations before commencement of the final exam. The rest of the marks will be allotted to the Term Final Examination. The duration of final examination will be three (03) hours. The scheme of continuous assessment that a particular teacher would follow for a course will be announced on the first day of the classes. Distribution of marks for a given course per credit is as follows:

|                                    |             |
|------------------------------------|-------------|
| Class Performance                  | 5%          |
| Class Attendance                   | 5%          |
| Class Test/ Assignment             | 20%         |
| Mid-Term Assessment (Exam/Project) | 10%         |
| Final Examination (Section A & B)  | 60%         |
| <b>Total:</b>                      | <b>100%</b> |

## Marks in Attendance

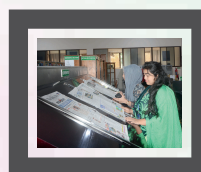
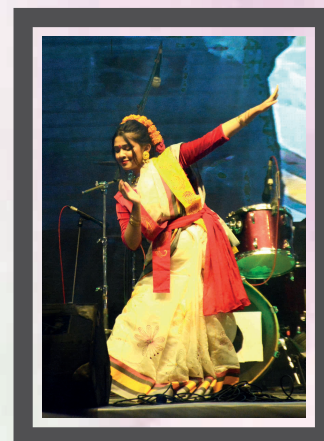
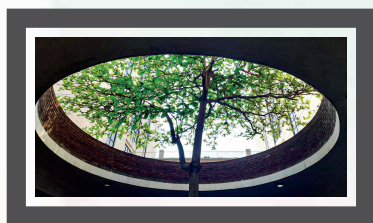
Basis for awarding marks for class Attendance will be as follows:

| <b>Attendance</b>    | <b>Marks</b> |
|----------------------|--------------|
| 90% and above        | 100%         |
| 85% to less than 90% | 80%          |
| 80% to less than 85% | 60%          |
| 75% to less than 80% | 40%          |
| 70% to less than 75% | 60%          |
| Below 70%            | 0%           |

## Sessional Courses

The sessional or part of sessional courses will be conducted and assessed throughout the term. In addition, the concerned teacher shall arrange final quiz/examination.

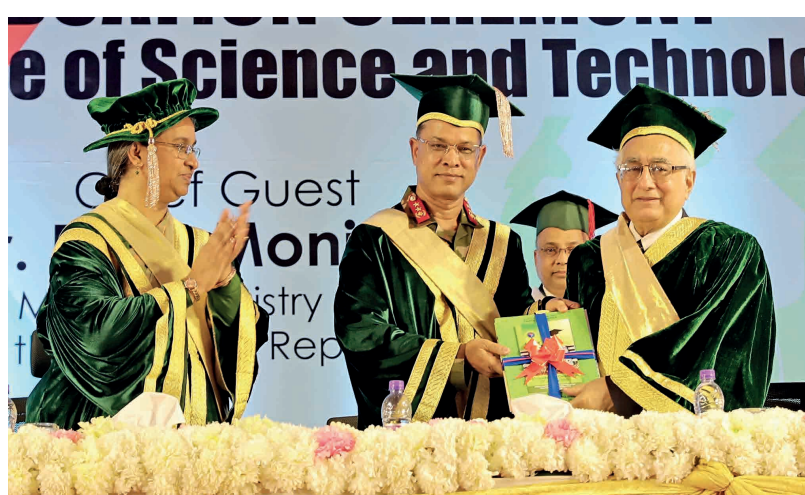
# PHOTO GALLERY







# Graduation Ceremony 2020





# Osmany Memorial Gold Medal 2020



**Maj Md Ziaul Islam**  
CE-18



**Uzma Hasan**  
CSE-16



**Afsana Mustari**  
AE-8



**Maj Md Nazmul Hasan**  
EECE-14



**A S M Araf Raihan**  
NAME-4



**Miahn Rasheeq Aosaf**  
ME-14



**Maj Azfar Ahmed Engrs**  
Arch-1



**Afsara Tasnim**  
BME-2



**Shahriar Tanvir Alam**  
IPE-1



**Golamur Rahman Khan**  
NSE-2



**Farzana Mubassira**  
PME-1



**Farhat Tahsin Prattoyee**  
EWCE-2





**MIST Team Mongol Barota Wins Global Championship in University Rover Challenge (URC)**



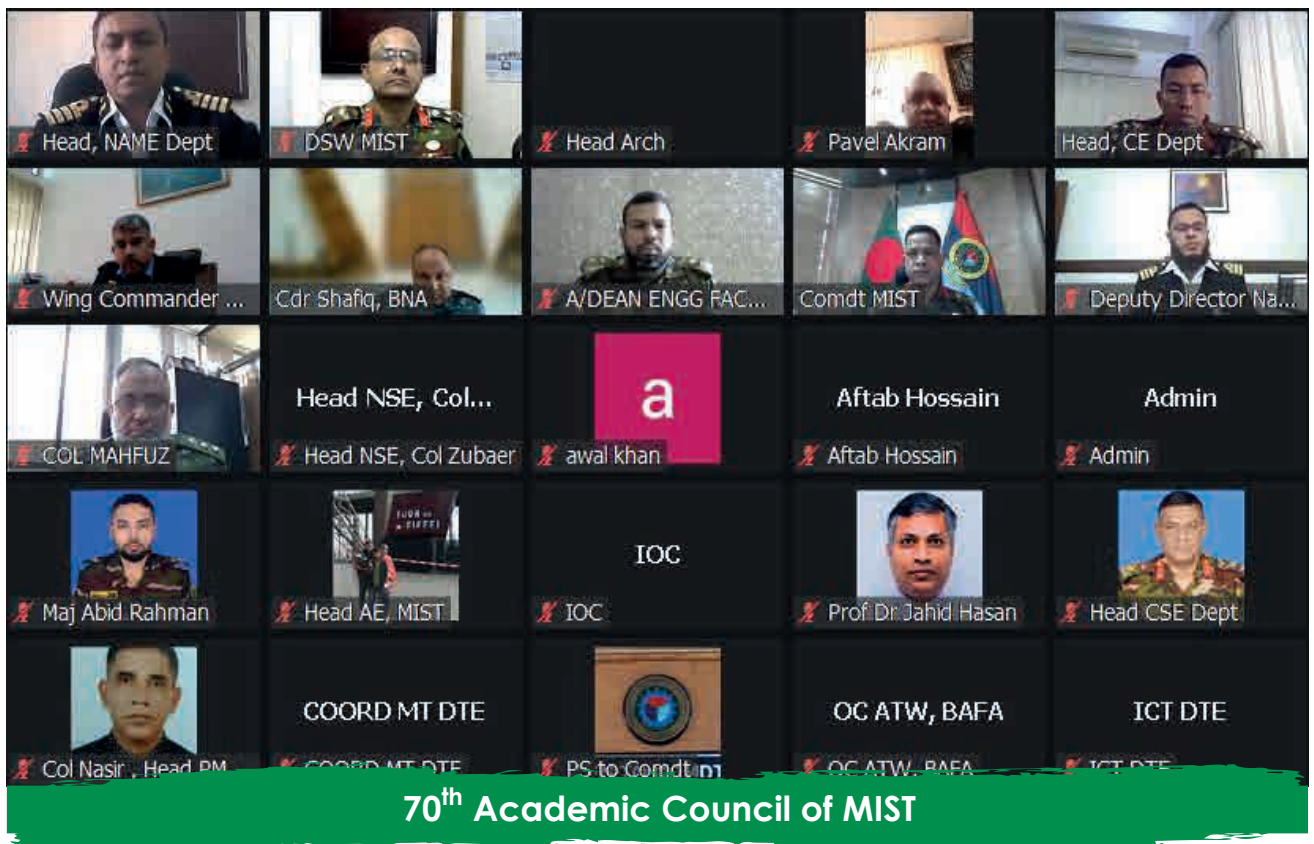
**Medical Robotics Competition for Contagious Diseases 2020**





Council of MIST









Observance of Birth Centenary of Father of the Nation and National Children Day 2021

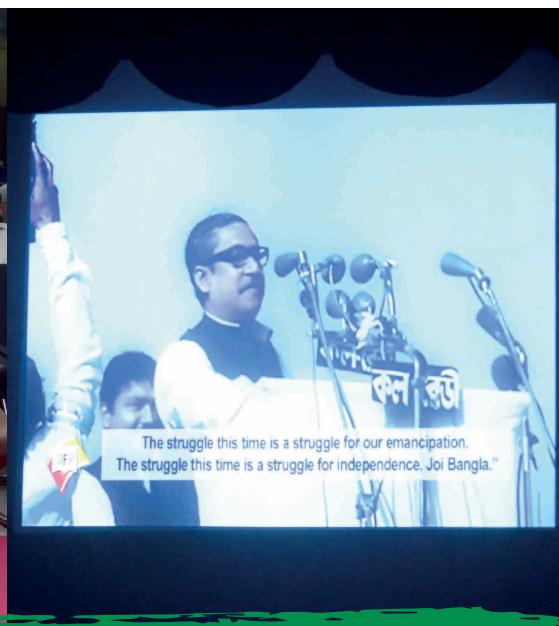


Online Photography Exhibition: Ambience 3.0









Observance of 'National Mourning Day 2021'



COVID-19 Awareness Program





**Bangabandhu Sheikh Mujib Marathon 2021**









**MoU Signing Ceremony between MIST & JHRML**



**Contract Signing Ceremony between CATS-MIST (EWCE) and  
Bangladesh Economic Zones Authority (BEZA)**





**Faculty Members of CSE Department Visited NSU**



**A Field Visit Took Place to the Proposed Tangail Economic Zone (TEZ) in Bhuiyanpur Tangail**



**Environmental Impact Assessment (EIA) Study for establishing Sonadia Eco-Tourism Park**



**Training Visit at Dockyard and Engineering Workshops Ltd (DEW)**





**HE Mr. Mustafa Osman Turan, Ambassador of the Republic of Turkey in Dhaka, visited MIST**



**Pakistan's Defense Attaché visited MIST**



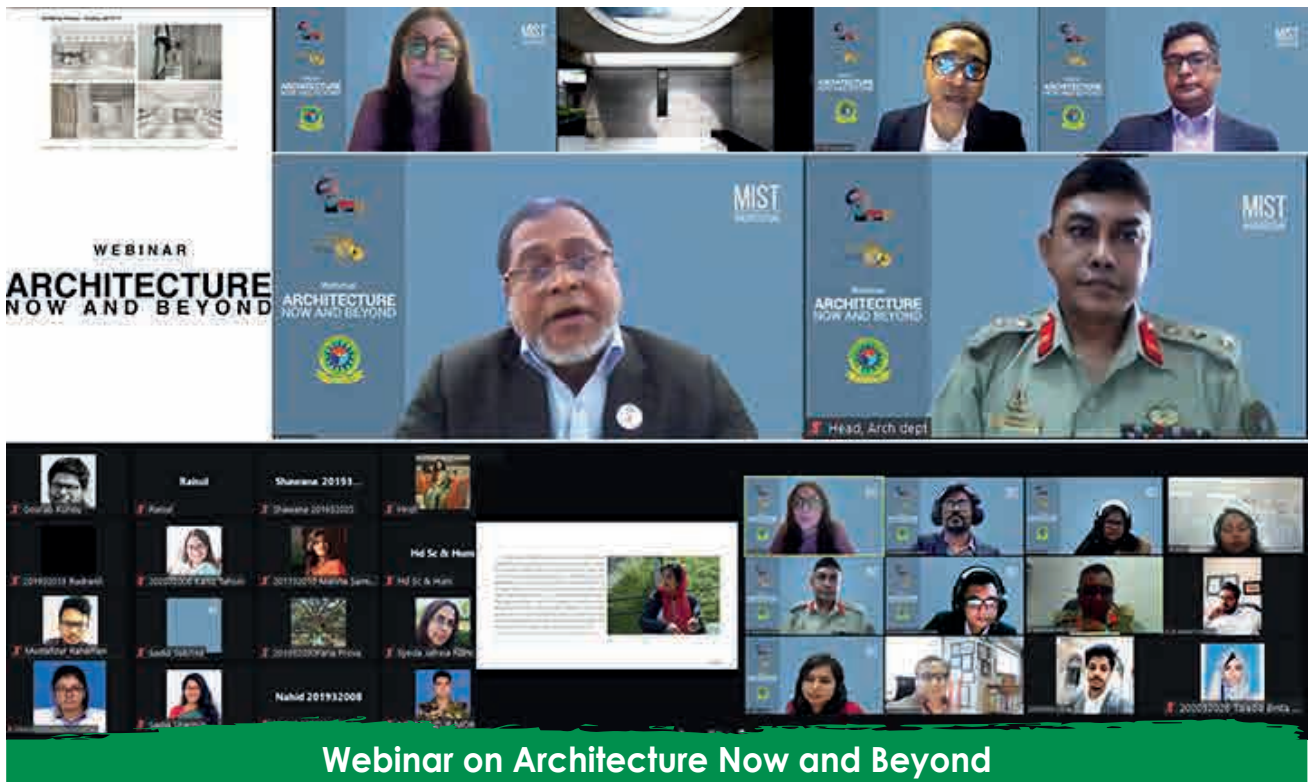


Senior Secretary Dr. Md. Abu Hena Mostafa Kamal, ndc and 13 other delegation members from the MOD visited MIST



Representatives of Fair Group visited MIST









**Webinar on Role of Naval Architects in Ensuring Safety and Comfort of Seafarers**



**Faculty Development Programm-2022**














**Conference Chairmen**

**Prof. Dr. John V Smith (Program)**

**Prof. Dr. Zakaria Hossain (General)**





**12:00-13:00 Oral/Poster Session 6**

**Chair: Dr. Md. Jahidul Islam**

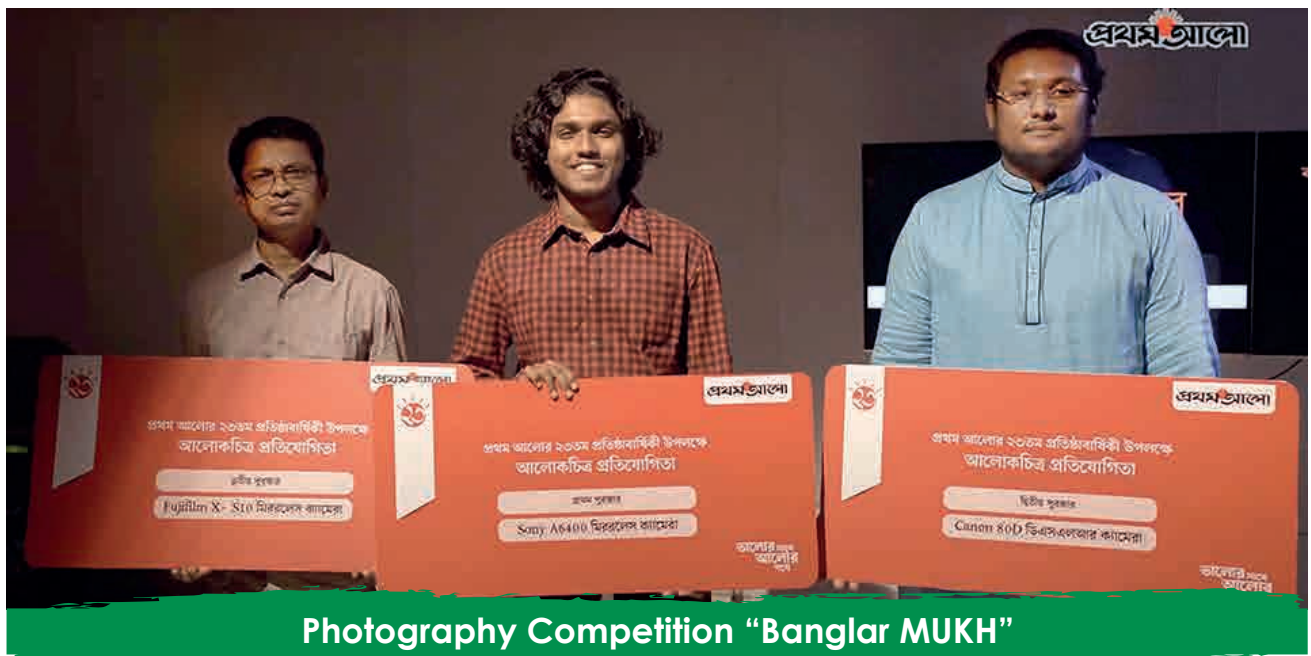
**GX<sub>129</sub>, GX<sub>281</sub>, GX<sub>282</sub>, GX<sub>292</sub>, GX<sub>375</sub>, GX<sub>433</sub>**

**10th International Conference on Geotechnique, Construction Materials and Environment**









Photography Competition “Banglar MUKH”



CSE Talent Hunt 2021



CAD Contest 2021



NASA International Space Apps Challenge



12th National Undergraduate Mathematics Olympiad 2021



## International Astronomy and Astrophysics Competition

Edition of 2021



### GOLD HONOUR

presented to

**Sakshar Chowdhury**

Date of Issue: 5. July 2021  
Country: Bangladesh  
School: Military Institute of Science and Technology  
Verify-ID: F-2021-EBB21137170

for participating in the final round of the International Astronomy and Astrophysics Competition of 2021. The final round was a supervised exam of forty questions which required comprehensive astronomy and astrophysics knowledge. The participant scored 23 points and was placed among the top 3% of all participants.

*F. Schneider*

Fabian Schneider, Team Coordinator

*Rami Aly*

Rami Aly, Program Coordinator

This document was issued by the International Astronomy and Astrophysics Competition. The validity of this document and other documents issued by the International Astronomy and Astrophysics Competition may be verified with the verify-ID online on this page: <https://aac.space/verify>.

## The International Astronomy and Astrophysics Competition 2021



TECHNICAL  
ACADEMY

RUSATOM  
SERVICE



TECHNICAL  
ACADEMY

RUSATOM  
SERVICE

### CERTIFICATE

This is to certify that  
**SIFATUL MUKTADIR**

has participated in the Train-The-Trainers course  
"Technological Aspects of AES-2006 (VVER-1200).  
Development of Nuclear Curricula on VVER Technology"  
held on 08 - 21 November, 2021

Date: 21.11.2021

*Pavel Zhuravlev*  
Vice Rector of Rosatom Technical Academy

Obninsk  
Russian Federation

### CERTIFICATE

This is to certify that  
**A. S. M. NASIM**

has participated in the Train-The-Trainers course  
"Technological Aspects of AES-2006 (VVER-1200).  
Development of Nuclear Curricula on VVER Technology"  
held on 08 - 21 November, 2021

Date: 21.11.2021

*Pavel Zhuravlev*  
Vice Rector of Rosatom Technical Academy

Obninsk  
Russian Federation

## Certificate Training on Technological Aspects of NNP-2006 (VVR-1200)



## Best Student Award (Abroad)

Google Scholar



**Muhammad Nazrul Islam, Ph.D.**

Dept. of Computer Science & Engineering, Military Institute of Science & Technology (MIST)

Verified email at [cse.mist.ac.bd](mailto:cse.mist.ac.bd) - [Homepage](#)

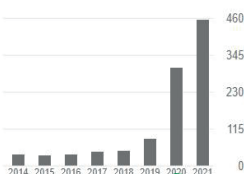
Human-Computer Interact... Health Informatics Usability Engineering User Experiences (UX) Machine Learning

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|           | All  | Since 2016 |
|-----------|------|------------|
| Citations | 1179 | 1008       |
| h-index   | 17   | 15         |
| i10-index | 35   | 29         |

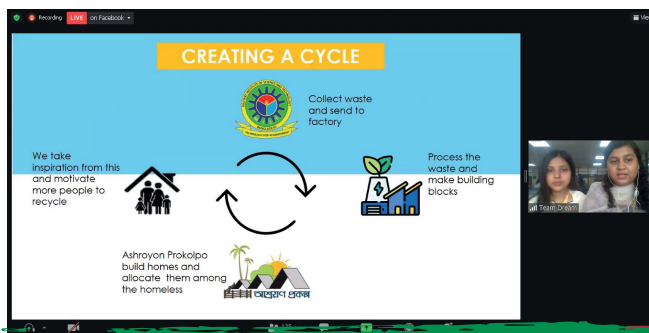


| TITLE                                                                                                                                                                                                   | CITED BY | YEAR |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------|
| What drives unverified information sharing and cyberchondria during the COVID-19 pandemic?<br>S Samuli Laato, AKMN Islam, MN Islam, E Whelan<br>European Journal of Information Systems 29 (3), 288-305 | 163      | 2020 |
| A Machine Learning Approach to Predict Autism Spectrum Disorder<br>KS Omar, P Mondal, NS Khan, MRK Rizvi, MN Islam<br>International Conference on Ele...                                                | 65       | 2019 |

## Citation Milestone Achieved by CSE Faculty Member



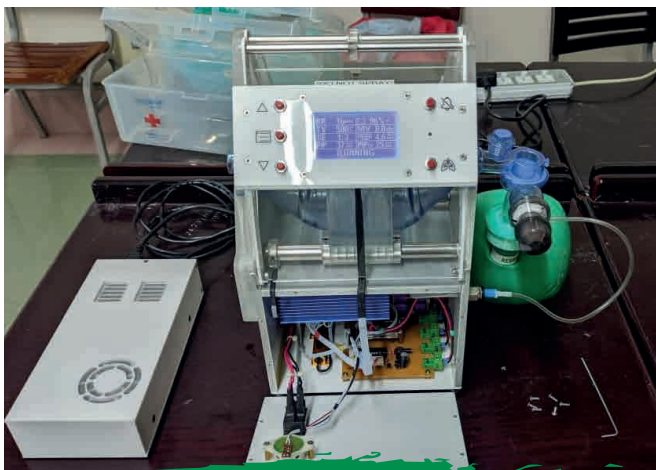
## ROBOT NOKSHAR ASOR: 3D Robot Design Challenge



**Pitch Camp 2.0 by MIST Innovation Club**



**The Biggest Wind Tunnel of the Country in Fluid Mechanics Laboratory**



**Ventilator Project by BME Department**



**BME Students Participated in the AEO-2020 held in Indonesia**





Survey Camp 2021



MIST Admission Test 2021





Bangabandhu Inter Department Football Competition 2021



Bangabandhu Inter Department T-10 Cricket Competition



MIST Organized a Friendly Football Match to Celebrate Sheikh Russel Day Friendly Football Match 2021





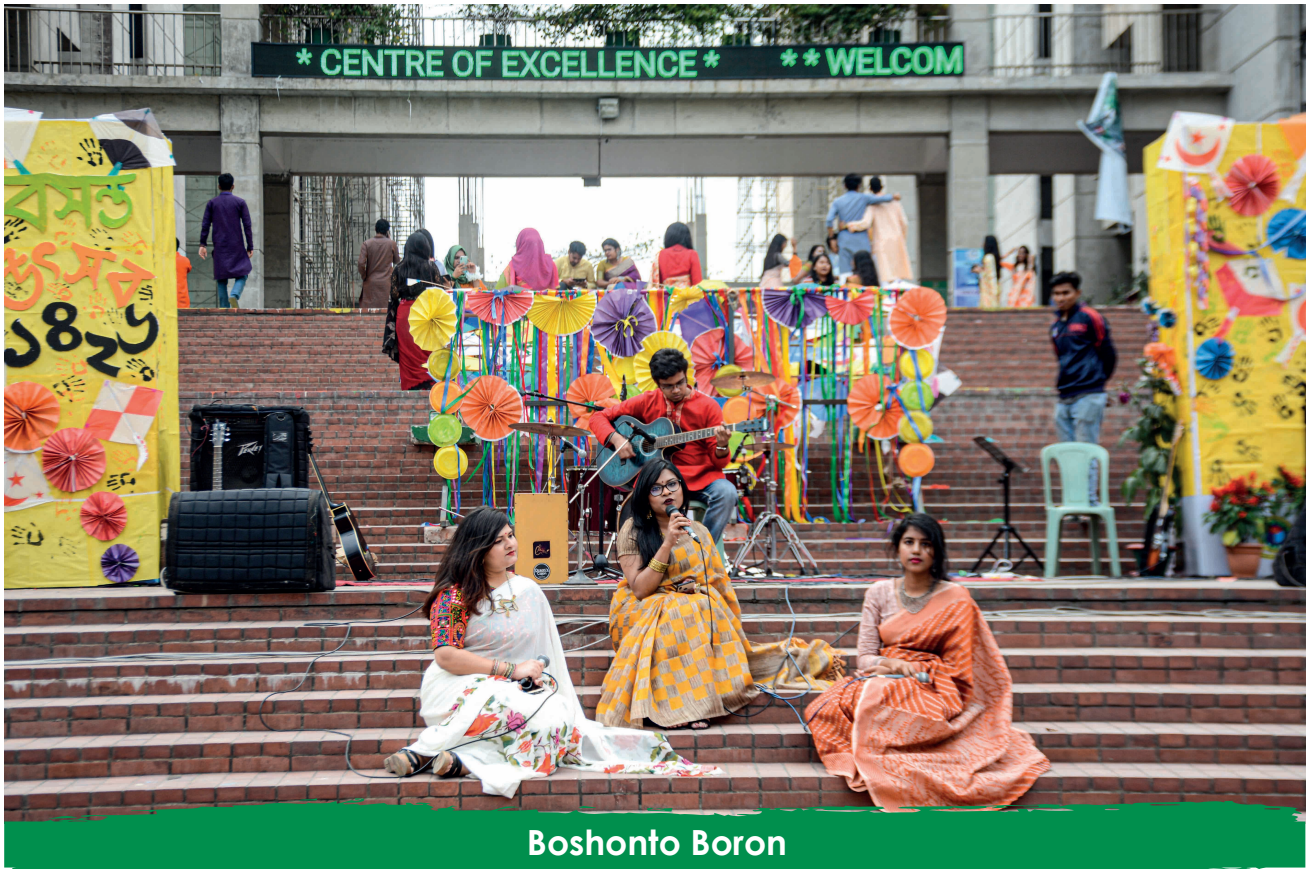
# CAMPUS HOUR















**MIST Central Library**



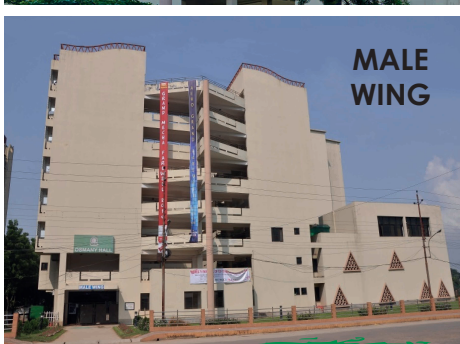
**Reading Room**



**Medical Centre**



**Fitness Centre**



**MALE  
WING**



**FEMALE  
WING**



**STUDENTS' ACCOMMODATION (OSMANY HALL)**



# SYLLABI OF ALL DEPARTMENTS

## FACULTY OF CIVIL ENGINEERING

### DEPT OF CIVIL ENGINEERING

Total Credit Hours: 160.00

#### Level-1, Term-I

| Course Code                 | Course Name                                      | Type of Course | Contact Hour | Credits      |
|-----------------------------|--------------------------------------------------|----------------|--------------|--------------|
| CE 101                      | Analytical Mechanics                             | Theory         | 3.00         | 3.00         |
| PHY 101                     | Waves and Oscillation, Optics and Modern Physics | Theory         | 3.00         | 3.00         |
| CHEM 101                    | Fundamentals of Chemistry                        | Theory         | 3.00         | 3.00         |
| MATH 101                    | Differential and Integral Calculus               | Theory         | 3.00         | 3.00         |
| GEBS 101                    | Bangladesh Studies                               | Theory         | 2.00         | 2.00         |
| <b>Subtotal (Theory)</b>    |                                                  |                | <b>14.00</b> | <b>14.00</b> |
| CSE 176                     | Computer Programming Sessional                   | Sessional      | 3.00         | 1.50         |
| ME 132                      | Workshop Technology Sessional                    | Sessional      | 3.00         | 1.50         |
| CHEM 102                    | Chemistry Sessional                              | Sessional      | 3.00         | 1.50         |
| CE 100                      | Civil Engineering Drawing                        | Sessional      | 3.00         | 1.50         |
| <b>Subtotal (Sessional)</b> |                                                  |                | <b>12.00</b> | <b>6.00</b>  |
| <b>Total =</b>              |                                                  |                | <b>26.00</b> | <b>20.00</b> |

#### Level-1, Term-II

| Course Code                                  | Course Name                                                                                    | Type of Course | Contact Hour | Credits      |
|----------------------------------------------|------------------------------------------------------------------------------------------------|----------------|--------------|--------------|
| PHY 107/<br>CHEM 105                         | Structure of Matter, Heat and Temperature, Kinetics and Kinematics/<br>Environmental Chemistry | Theory         | 3.00         | 3.00         |
| MATH 103                                     | Differential Equations and Matrix                                                              | Theory         | 3.00         | 3.00         |
| GES 101                                      | Fundamentals of Sociology                                                                      | Theory         | 2.00         | 2.00         |
| EECE 165                                     | Basic Electrical Technology                                                                    | Theory         | 3.00         | 3.00         |
| CE 103                                       | Surveying and Spatial Information Engineering                                                  | Theory         | 3.00         | 3.00         |
| <b>Subtotal (Theory)</b>                     |                                                                                                |                | <b>14.00</b> | <b>14.00</b> |
| PHY 102                                      | Physics Sessional                                                                              | Sessional      | 3.00         | 1.50         |
| LANG 102                                     | Communicative English I                                                                        | Sessional      | 3.00         | 1.50         |
| CE 102                                       | Computer Aided Drawing                                                                         | Sessional      | 3.00         | 1.50         |
| CE 104                                       | Practical Surveying                                                                            | Field work     | 3wks         | 1.50         |
| <b>Subtotal (Sessional &amp; Field Work)</b> |                                                                                                |                | <b>9.00</b>  | <b>6.00</b>  |
| <b>Total =</b>                               |                                                                                                |                | <b>23.00</b> | <b>20.00</b> |

#### Level-2, Term-I

| Course Code                 | Course Name                                                | Type of Course | Contact hours | Credits      |
|-----------------------------|------------------------------------------------------------|----------------|---------------|--------------|
| MATH 201                    | Vector Analysis, Laplace Transform and Coordinate Geometry | Theory         | 3.00          | 3.00         |
| GEA 201/<br>GEE 201         | Principles of Accounting/<br>Fundamentals of Economics     | Theory         | 2.00          | 2.00         |
| CE 203                      | Engineering Geology and Geomorphology                      | Theory         | 3.00          | 3.00         |
| CE 211                      | Mechanics of Solids I                                      | Theory         | 3.00          | 3.00         |
| CE 261                      | Fluid Mechanics                                            | Theory         | 3.00          | 3.00         |
| <b>Subtotal (Theory)</b>    |                                                            |                | <b>14.00</b>  | <b>14.00</b> |
| CE 200                      | Details of Construction                                    | Sessional      | 3.00          | 1.50         |
| CE 210                      | GIS and Remote Sensing                                     | Sessional      | 3.00          | 1.50         |
| CE 262                      | Fluid Mechanics Sessional                                  | Sessional      | 3.00          | 1.50         |
| LANG 202                    | Communicative English II                                   | Sessional      | 3.00          | 1.50         |
| <b>Subtotal (Sessional)</b> |                                                            |                | <b>12.00</b>  | <b>6.00</b>  |
| <b>Total =</b>              |                                                            |                | <b>26.00</b>  | <b>20.00</b> |

#### Level-2, Term-II

| Course Code                 | Course Name                                          | Type of Course | Contact hours | Credits      |
|-----------------------------|------------------------------------------------------|----------------|---------------|--------------|
| MATH 203                    | Applied Mathematics for Engineers                    | Theory         | 3.00          | 3.00         |
| GELM 275                    | Leadership and Management                            | Theory         | 2.00          | 2.00         |
| CE 201                      | Engineering Materials                                | Theory         | 3.00          | 3.00         |
| CE 205                      | Numerical Methods for Engineering                    | Theory         | 3.00          | 3.00         |
| CE 213                      | Mechanics of Solids II                               | Theory         | 3.00          | 3.00         |
| <b>Subtotal (Theory)</b>    |                                                      |                | <b>14.00</b>  | <b>14.00</b> |
| CSE 274                     | Engineering Computations Sessional                   | Sessional      | 3.00          | 1.50         |
| ARCH 214                    | Architectural, Engineering and Planning Appreciation | Sessional      | 3.00          | 1.50         |
| CE 208                      | Quantity Surveying                                   | Sessional      | 3.00          | 1.50         |
| CE 212                      | Structural Mechanics and Materials Sessional         | Sessional      | 3.00          | 1.50         |
| <b>Subtotal (Sessional)</b> |                                                      |                | <b>12.00</b>  | <b>6.00</b>  |
| <b>Total =</b>              |                                                      |                | <b>26.00</b>  | <b>20.00</b> |

### Level-3, Term-I

| Course Code                 | Course Name                          | Type of Course | Contact hours | Credits      |
|-----------------------------|--------------------------------------|----------------|---------------|--------------|
| CE 311                      | Structural Analysis and Design I     | Theory         | 4.00          | 4.00         |
| CE 315                      | Design of Concrete Structures I      | Theory         | 3.00          | 3.00         |
| CE 331                      | Environmental Engineering I          | Theory         | 3.00          | 3.00         |
| CE 341                      | Principles of Soil Mechanics         | Theory         | 4.00          | 4.00         |
| <b>Subtotal (Theory)</b>    |                                      |                | <b>14.00</b>  | <b>14.00</b> |
| GERM 352                    | Fundamentals of Research Methodology | Sessional      | 4.00          | 2.00         |
| CE 332                      | Environmental Engineering Sessional  | Sessional      | 3.00          | 1.50         |
| CE 342                      | Geotechnical Engineering Sessional   | Sessional      | 3.00          | 1.50         |
| <b>Subtotal (Sessional)</b> |                                      |                | <b>10.00</b>  | <b>5.00</b>  |
| <b>Total =</b>              |                                      |                | <b>24.00</b>  | <b>19.00</b> |

### Level-4, Term-I

| Course Code                                       | Course Name                                                     | Type of Course | Contact hours | Credits      |
|---------------------------------------------------|-----------------------------------------------------------------|----------------|---------------|--------------|
| CE 411                                            | Structural Analysis and Design II                               | Theory         | 3.00          | 3.00         |
| CE 413                                            | Design of Steel Structures                                      | Theory         | 3.00          | 3.00         |
| CE 451                                            | Highway Materials, Pavement Design and Railways                 | Theory         | 4.00          | 4.00         |
| CE 463                                            | Hydrology and Irrigation Engineering                            | Theory         | 4.00          | 4.00         |
| <b>Subtotal (Theory)</b>                          |                                                                 |                | <b>14.00</b>  | <b>14.00</b> |
| CE 410                                            | Concrete Structures Design Sessional II                         | Sessional      | 3.00          | 1.50         |
| CE 414                                            | Steel Structures Design Sessional                               | Sessional      | 3.00          | 1.50         |
| CE 452                                            | Highway Materials, Mix Design and Traffic Engineering Sessional | Sessional      | 3.00          | 1.50         |
| CE 400                                            | Final Year Research Project (FYP)                               | Thesis         | 4.00          | 2.00         |
| <b>Subtotal (Thesis, Sessional &amp; Project)</b> |                                                                 |                | <b>13.00</b>  | <b>6.50</b>  |
| <b>Total =</b>                                    |                                                                 |                | <b>27.00</b>  | <b>20.50</b> |

### List of Elective Courses for Structural Engineering (Any Two Theory & One Sessional)

| Sl | Course Code | Course Name                                  | Type of Course | Contact hours | Credits |
|----|-------------|----------------------------------------------|----------------|---------------|---------|
| 1. | CE 415      | Pre-stressed Concrete                        | Theory         | 2.00          | 2.00    |
| 2. | CE 417      | Design of Concrete Structures III            | Theory         | 2.00          | 2.00    |
| 3. | CE 419      | Introduction to Finite Element Method        | Theory         | 2.00          | 2.00    |
| 4. | CE 421      | Dynamics of Structures                       | Theory         | 2.00          | 2.00    |
| 5. | CE 423      | Structural Safety                            | Theory         | 2.00          | 2.00    |
| 6. | CE 425      | Seismic Design of Structures                 | Theory         | 2.00          | 2.00    |
| 7. | CE 427      | Advanced Solid Mechanic                      | Theory         | 2.00          | 2.00    |
| 8. | CE 429      | Design of Steel-Concrete Composite Structure | Theory         | 2.00          | 2.00    |
| 9. | CE 412      | Bridge Design Sessional                      | Sessional      | 3.00          | 1.50    |

### Level-3, Term-II

| Course Code                 | Course Name                                              | Type of Course | Contact hours | Credits      |
|-----------------------------|----------------------------------------------------------|----------------|---------------|--------------|
| CE 317                      | Design of Concrete Structures II                         | Theory         | 3.00          | 3.00         |
| CE 333                      | Environmental Engineering II                             | Theory         | 4.00          | 4.00         |
| CE 343                      | Foundation Engineering                                   | Theory         | 3.00          | 3.00         |
| CE 351                      | Fundamentals of Transportation Engineering               | Theory         | 3.00          | 3.00         |
| CE 361                      | Open Channel Hydraulics                                  | Theory         | 3.00          | 3.00         |
| <b>Subtotal (Theory)</b>    |                                                          |                | <b>16.00</b>  | <b>16.00</b> |
| CE 300                      | Civil Engineering Students' Internship Programme (CESIP) | Internship     | 3 wks         | 1.50         |
| CE 316                      | Concrete Structures Design Sessional I                   | Sessional      | 3.00          | 1.50         |
| CE 362                      | Open Channel Hydraulics Sessional                        | Sessional      | 3.00          | 1.50         |
| <b>Subtotal (Sessional)</b> |                                                          |                | <b>6.00</b>   | <b>4.50</b>  |
| <b>Total =</b>              |                                                          |                | <b>22.00</b>  | <b>20.50</b> |

### Level-4, Term-II

| Course Code                         | Course Name                                                | Type of Course | Contact hours | Credits      |
|-------------------------------------|------------------------------------------------------------|----------------|---------------|--------------|
| GEPM 401                            | Project Planning and Construction Management               | Theory         | 3.00          | 3.00         |
| GEPP 403                            | Engineering Ethics and Professional Practices              | Theory         | 2.00          | 2.00         |
| CE 4XX                              | Two Theory Courses in Major Division from Elective Courses | Theory         | 4.00          | 4.00         |
| CE 4XX                              | Two Theory Courses in Minor Division from Elective Courses | Theory         | 4.00          | 4.00         |
| <b>Subtotal (Theory)</b>            |                                                            |                | <b>13.00</b>  | <b>13.00</b> |
| CE 400                              | Final Year Research Project (FYP) from Elective Courses    | Thesis         | 8.00          | 4.00         |
| CE 4XX                              | One Lab Course in Major Division from Elective Courses     | Sessional      | 3.00          | 1.50         |
| CE 4XX                              | One Lab Course in Minor Division from Elective Courses     | Sessional      | 3.00          | 1.50         |
| <b>Subtotal (Thesis, Sessional)</b> |                                                            |                | <b>14.00</b>  | <b>7.00</b>  |
| <b>Total =</b>                      |                                                            |                | <b>27.00</b>  | <b>20.00</b> |

### List of Elective Courses for Environment Engineering (Any Two Theory & One Sessional)

| Sl | Course Code | Course Name                                             | Type of Course | Contact hours | Credits |
|----|-------------|---------------------------------------------------------|----------------|---------------|---------|
| 1. | CE 431      | Natural Resources and Renewable Energy                  | Theory         | 2.00          | 2.00    |
| 2. | CE 433      | Solid and Hazardous Waste Management                    | Theory         | 2.00          | 2.00    |
| 3. | CE 435      | Environmental Pollution and Management                  | Theory         | 2.00          | 2.00    |
| 4. | CE 437      | Climate Change and Disaster Management                  | Theory         | 2.00          | 2.00    |
| 5. | CE 439      | Environmental Impact Assessment and Sustainability      | Theory         | 2.00          | 2.00    |
| 6. | CE 432      | Design of Water Supply, Sanitation and Sewerage Systems | Sessional      | 3.00          | 1.50    |



**List of Elective Courses for Geotechnical Engineering  
(Any Two Theory & One Sessional)**

| Sl | Course Code | Course Name                      | Type of Course | Contact hours | Credits |
|----|-------------|----------------------------------|----------------|---------------|---------|
| 1. | CE 443      | Earth Retaining Structures       | Theory         | 2.00          | 2.00    |
| 2. | CE 445      | Elementary Soil Dynamics         | Theory         | 2.00          | 2.00    |
| 3. | CE 447      | Soil-Water Interaction           | Theory         | 2.00          | 2.00    |
| 4. | CE 449      | Numerical Methods in Geotechnics | Theory         | 2.00          | 2.00    |
| 5. | CE 442      | Foundation Design                | Sessional      | 3.00          | 1.50    |

**List of Elective Courses for Transportation Engineering  
(Any Two Theory & One Sessional)**

| Sl | Course Code | Course Name                                           | Type of Course | Contact hours | Credits |
|----|-------------|-------------------------------------------------------|----------------|---------------|---------|
| 1. | CE 453      | Traffic Engineering Design and Management             | Theory         | 2.00          | 2.00    |
| 2. | CE 455      | Pavement Management, Drainage and Airport Engineering | Theory         | 2.00          | 2.00    |
| 3. | CE 457      | Urban Transportation Planning & Management            | Theory         | 2.00          | 2.00    |
| 4. | CE 459      | Intelligent Transportation System                     | Theory         | 2.00          | 2.00    |
| 5. | CE 461      | Railway Engineering                                   | Theory         | 2.00          | 2.00    |
| 6. | CE 454      | Traffic Studies and Pavement Design                   | Sessional      | 3.00          | 1.50    |

**List of Elective Courses for Water Engineering  
(Any Two Theory & One Sessional)**

| Sl | Course Code | Course Name                     | Type of Course | Contact hours | Credits |
|----|-------------|---------------------------------|----------------|---------------|---------|
| 1. | CE 465      | Groundwater Engineering         | Theory         | 2.00          | 2.00    |
| 2. | CE 467      | Flood Mitigation and Management | Theory         | 2.00          | 2.00    |
| 3. | CE 469      | River Engineering               | Theory         | 2.00          | 2.00    |
| 4. | CE 471      | Hydraulic Structures            | Theory         | 2.00          | 2.00    |
| 5. | CE 473      | Coastal Engineering             | Theory         | 2.00          | 2.00    |
| 6. | CE 472      | Hydraulic Structures Design     | Sessional      | 3.00          | 1.50    |

## DEPT OF ARCHITECTURE

Total Offered Credit Hours: 221.00  
Total Required Credit Hours: 189.00

|                 | L-1, T-1                                          |                                         | Cr.          | Hr.          |
|-----------------|---------------------------------------------------|-----------------------------------------|--------------|--------------|
| Core Sessional  | Design Studios                                    | ARCH 1102: Design Studio I              | 6.00         | 9.00         |
|                 | Design Communication Studios                      | ARCH 1104: Architectural graphics I     | 3.00         | 6.00         |
|                 | Total Cr. & Cr. Hr. Sessional                     |                                         | <b>9.00</b>  | <b>15.00</b> |
| Core Theory     | General Education                                 | HUM 1111: English                       | 2.00         | 2.00         |
|                 |                                                   | MATH 1111: Mathematics                  | 2.00         | 2.00         |
|                 | Design Related Theories                           | ARCH 1103: Design Theory I              | 2.00         | 2.00         |
|                 |                                                   | ARCH 1105: Building and Finish Material | 2.00         | 2.00         |
|                 | Technical System                                  |                                         | 2.00         | 2.00         |
|                 | History, Human Behavior & Environment             | ARCH 1101: Art and Architecture I       | 2.00         | 2.00         |
|                 | Practice                                          |                                         |              |              |
|                 | Total Cr.& Cr. Hr. Core Theory                    |                                         | <b>10.00</b> | <b>10.00</b> |
| Elective Theory | General Education                                 |                                         |              |              |
|                 | Technical System                                  |                                         |              |              |
|                 | Design Related Theories                           |                                         |              |              |
|                 | History, Human Behavior & Environment             |                                         |              |              |
|                 | Total Cr. & Cr. Hr. Elec. Theory                  |                                         | <b>0</b>     | <b>0</b>     |
|                 | <b>Total Credit and Contact Hours of L-1, T-1</b> |                                         | <b>19.00</b> | <b>25.00</b> |

|                 | L-1, T-2                                          |                                                                                     | Cr.          | Hr.          |
|-----------------|---------------------------------------------------|-------------------------------------------------------------------------------------|--------------|--------------|
| Core Sessional  | Design Studios                                    | ARCH 1202: Design Studio II                                                         | 6.00         | 9.00         |
|                 |                                                   | pre req. ARCH 1102: Design Studio I<br>pre req. ARCH 1104: Architectural Graphics I |              |              |
|                 | Design Communication Studios                      | ARCH 1204: Architectural graphics II                                                | 3.00         | 6.00         |
|                 |                                                   | pre req. ARCH 1104: Architectural Graphics I                                        |              |              |
|                 |                                                   | ARCH 1230: Computer Application I                                                   |              |              |
|                 | Total Cr. Hr. Sessional                           |                                                                                     | <b>10.5</b>  | <b>18</b>    |
| Core Theory     | General Education                                 | HUM 1213: Sociology                                                                 | 2.00         | 2.00         |
|                 |                                                   | PHY 1211: Physics                                                                   | 2.00         | 2.00         |
|                 | Design Related Theories                           | ARCH 1205: Climate and Design                                                       | 2.00         | 2.00         |
|                 |                                                   | ARCH 1203: Design Theory II                                                         | 2.00         | 2.00         |
|                 | Technical System                                  |                                                                                     |              |              |
|                 | History, Human Behavior & Environment             | ARCH 1201: Art and Architecture II                                                  | 2.00         | 2.00         |
|                 | Practice                                          |                                                                                     |              |              |
|                 | Total Cr.& Cr. Hr. Core Theory                    |                                                                                     | <b>10.00</b> | <b>10.00</b> |
| Elective Theory | General Education                                 |                                                                                     |              |              |
|                 | Technical System                                  |                                                                                     |              |              |
|                 | Design Related Theories                           |                                                                                     |              |              |
|                 | History, Human Behavior & Environment             |                                                                                     |              |              |
|                 | Total Cr.& Cr. Hr. Elec. Theory                   |                                                                                     | <b>0</b>     | <b>0</b>     |
|                 | <b>Total Credit and Contact Hours of L-1, T-2</b> |                                                                                     | <b>20.50</b> | <b>28.00</b> |



|                        | <b>L-2, T-1</b>                                   |                                                                                       | <b>Cr.</b>   | <b>Hr.</b>   |
|------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------|--------------|--------------|
| <b>Core Sessional</b>  | Design Studios                                    | ARCH 2102: Design Studio III                                                          | 8.00         | 12.00        |
|                        |                                                   | pre req. ARCH 1202: Design Studio II<br>pre req. ARCH 1204: Architectural graphics II |              |              |
|                        | Design Communication Studios                      | ARCH 2104: Graphic Art & Sculpture                                                    | 1.50         | 3.00         |
|                        |                                                   | ARCH 2130: Computer Application II                                                    | 1.50         | 3.00         |
|                        |                                                   | pre req. ARCH 1230: Computer Application I                                            |              |              |
|                        | Total Cr.& Cr. Hr. Sessional                      |                                                                                       | <b>11.00</b> | <b>18.00</b> |
| <b>Core Theory</b>     | General Education                                 |                                                                                       |              |              |
|                        | Design Related Theories                           | ARCH 2103: Visual & Sonic Environment                                                 | 2.00         | 2.00         |
|                        |                                                   | ARCH 2105: Basic Planning                                                             | 2.00         | 2.00         |
|                        | Technical System                                  | CE 2121: Structure I                                                                  | 2.00         | 2.00         |
|                        | History, Human Behavior & Environment             | ARCH 2101: Art and Architecture III                                                   | 2.00         | 2.00         |
|                        | Practice                                          |                                                                                       |              |              |
|                        | Total Cr. & Cr. Hr. Core Theory                   |                                                                                       | <b>8.00</b>  | <b>8.00</b>  |
| <b>Elective Theory</b> | General Education                                 | HUM 2111: Logic and Philosophy                                                        | 2.00         | 2.00         |
|                        |                                                   | HUM 2113: Psychology and Behavior                                                     |              |              |
|                        | Technical System                                  |                                                                                       |              |              |
|                        | Design Related Theories                           |                                                                                       |              |              |
|                        | History, Human Behavior & Environment             |                                                                                       |              |              |
|                        | Total Cr.& Cr. Hr. Elec. Theory                   |                                                                                       | <b>2.00</b>  | <b>2.00</b>  |
|                        | <b>Total Credit and Contact Hours of L-2, T-1</b> |                                                                                       | <b>21.00</b> | <b>28.00</b> |

|                        | <b>L-2, T-2</b>                                   |                                             | <b>Cr.</b>   | <b>Hr.</b>   |
|------------------------|---------------------------------------------------|---------------------------------------------|--------------|--------------|
| <b>Core Sessional</b>  | Design Studios                                    | ARCH 2202: Design Studio IV                 | 8.00         | 12.00        |
|                        |                                                   | pre req. ARCH 2102: Design Studio III       |              |              |
|                        | Design Communication Studios                      | ARCH 2204: Photography and Film             | 1.50         | 3.00         |
|                        |                                                   | ARCH 2230: Computer Application II          | 1.50         | 3.00         |
|                        | Total Cr. & Cr. Hr. Sessional                     |                                             | <b>11.00</b> | <b>18.00</b> |
| <b>Core Theory</b>     | General Education                                 |                                             |              |              |
|                        | Design Related Theories                           | ARCH 2203: Landscape Design                 | 2.00         | 2.00         |
|                        | Technical System                                  | CE 2221: Structure II                       | 2.00         | 2.00         |
|                        |                                                   | EWC 2231: Building Services I: Plumbing     | 2.00         | 2.00         |
|                        | History, Human Behavior & Environment             | ARCH 2201: Art and Architecture IV          | 2.00         | 2.00         |
|                        | Practice                                          |                                             |              |              |
|                        | Total Cr. & Cr. Hr. Core Theory                   |                                             | <b>8.00</b>  | <b>8.00</b>  |
| <b>Elective Theory</b> | General Education                                 |                                             |              |              |
|                        | Technical System                                  |                                             |              |              |
|                        | Design Related Theories                           | ARCH 2205: Design in the Tropics            | 2.00         | 2.00         |
|                        |                                                   | ARCH 2207: Green & Sustainable Architecture |              |              |
|                        |                                                   | ARCH 2209: Vernacular Architecture          |              |              |
|                        | History, Human Behavior & Environment             |                                             |              |              |
|                        | Total Cr. & Cr. Hr. Elec. Theory                  |                                             | <b>2.00</b>  | <b>2.00</b>  |
|                        | <b>Total Credit and Contact Hours of L-2, T-2</b> |                                             | <b>21.00</b> | <b>28.00</b> |

|                 | L-3, T-1                                          |                                                                  | Cr.          | Hr.          |
|-----------------|---------------------------------------------------|------------------------------------------------------------------|--------------|--------------|
| Core Sessional  | Design Studios                                    | ARCH 3102: Design Studio V                                       | 8.00         | 12.00        |
|                 |                                                   | pre req. ARCH 2202: Design Studio IV                             |              |              |
|                 | Design Communication Studios                      | ARCH 3104: Landscape Design Studio                               | 1.50         | 3.00         |
|                 | Total Cr. & Cr. Hr. Sessional                     |                                                                  | <b>9.50</b>  | <b>15.00</b> |
| Core Theory     | General Education                                 |                                                                  |              |              |
|                 | Design Related Theories                           |                                                                  |              |              |
|                 | Technical System                                  | CE 3121: Structure III                                           | 2.00         | 2.00         |
|                 |                                                   | ME 3141: Building Services II: Mechanical Equipment              | 2.00         | 2.00         |
|                 |                                                   | ARCH 3161: Construction Method & Details                         | 2.00         | 2.00         |
|                 | History, Human Behavior & Environment             | ARCH 3101: Architecture of Bengal                                | 2.00         | 2.00         |
|                 | Practice                                          |                                                                  |              |              |
|                 | Total Cr. & Cr. Hr. Core Theory                   |                                                                  | <b>8.00</b>  | <b>8.00</b>  |
| Elective Theory | General Education                                 |                                                                  |              |              |
|                 | Technical System                                  |                                                                  |              |              |
|                 | Design Related Theories                           | ARCH 3103: Bio-Design and Architecture                           | 2.00         | 2.00         |
|                 |                                                   | ARCH 3105: Advanced Construction & Building Technology           |              |              |
|                 |                                                   | ARCH 3107: Modular Architecture, Production line & Customization |              |              |
|                 | History, Human Behavior & Environment             |                                                                  |              |              |
|                 | Total Cr. & Cr. Hr. Elec. Theory                  |                                                                  | <b>2.00</b>  | <b>2.00</b>  |
|                 | <b>Total Credit and Contact Hours of L-3, T-1</b> |                                                                  | <b>19.50</b> | <b>25.00</b> |

|                 | L-3, T-2                                          |                                                        | Cr.          | Hr.          |
|-----------------|---------------------------------------------------|--------------------------------------------------------|--------------|--------------|
| Core Sessional  | Design Studios                                    | ARCH 3202: Design Studio VI                            | 8.00         | 12.00        |
|                 |                                                   | pre req. ARCH 3102: Design Studio V                    |              |              |
|                 | Design Communication Studios                      | ARCH 3204: Working Drawing I: Construction Drawing     | 1.50         | 3.00         |
|                 | Total Cr. & Cr. Hr. Sessional                     |                                                        | <b>9.50</b>  | <b>15.00</b> |
| Core Theory     | General Education                                 |                                                        |              |              |
|                 | Design Related Theories                           |                                                        |              |              |
|                 | Technical System                                  | ARCH 3203: Urban Design                                | 2.00         | 2.00         |
|                 |                                                   | CE 3221: Structure IV                                  | 2.00         | 2.00         |
|                 |                                                   | EECE 3251: Building Services III: Electrical Equipment | 2.00         | 2.00         |
|                 | History, Human Behavior & Environment             | ARCH 3201: Art and Architecture V                      | 2.00         | 2.00         |
|                 | Practice                                          |                                                        |              |              |
|                 | Total Cr. & Cr. Hr. Core Theory                   |                                                        | <b>8.00</b>  | <b>8.00</b>  |
| Elective Theory | General Education                                 |                                                        |              |              |
|                 | Technical System                                  |                                                        |              |              |
|                 | Design Related Theories                           | ARCH 3205: Advanced Planning                           | 2.00         | 2.00         |
|                 |                                                   | ARCH 3207: Rural Planning                              |              |              |
|                 |                                                   | ARCH 3209: Transportation and Mobility Design          |              |              |
|                 | History, Human Behavior & Environment             |                                                        |              |              |
|                 | Total Cr. & Cr. Hr. Elec. Theory                  |                                                        | <b>2.00</b>  | <b>2.00</b>  |
|                 | <b>Total Credit and Contact Hours of L-3, T-2</b> |                                                        | <b>19.50</b> | <b>25.00</b> |



|                        | <b>L-4, T-1</b>                                   |                                                   | <b>Cr.</b>   | <b>Hr.</b>   |
|------------------------|---------------------------------------------------|---------------------------------------------------|--------------|--------------|
| <b>Core Sessional</b>  | Design Studios                                    | ARCH 4102: Design Studio VII                      | 8.00         | 12.00        |
|                        |                                                   | pre req. ARCH 3202: Design Studio VI              |              |              |
|                        | Design Communication Studios                      | ARCH 4104: Working Drawing II: Production Drawing | 1.50         | 3.00         |
|                        |                                                   | ARCH 3204: pre req. Working Drawing I             |              |              |
|                        | Total Cr. & Cr. Hr. Sessional                     |                                                   | <b>9.50</b>  | <b>15.00</b> |
| <b>Core Theory</b>     | General Education                                 |                                                   |              |              |
|                        | Design Related Theories                           | ARCH 4103: Interior Design                        | 2.00         | 2.00         |
|                        |                                                   | ARCH 4105: Housing                                | 2.00         | 2.00         |
|                        | Technical System                                  | ARCH 4161: Cost Estimation & Specification        | 2.00         | 2.00         |
|                        | History, Human Behavior & Environment             |                                                   |              |              |
|                        | Practice                                          |                                                   |              |              |
|                        | Total Cr. & Cr. Hr. Core Theory                   |                                                   | <b>6.00</b>  | <b>6.00</b>  |
| <b>Elective Theory</b> | General Education                                 |                                                   |              |              |
|                        | Technical System                                  |                                                   |              |              |
|                        | Design Related Theories                           |                                                   |              |              |
|                        | History, Human Behavior & Environment             | ARCH 4101: Music and Film Appreciation            | 2.00         | 2.00         |
|                        |                                                   | ARCH 4107: Post Modern Art & Architecture         |              |              |
|                        |                                                   | ARCH 4109: Contemporary Architectural Theories    |              |              |
|                        | Total Cr. & Cr. Hr. Elec. Theory                  |                                                   | <b>2.00</b>  | <b>2.00</b>  |
|                        | <b>Total Credit and Contact Hours of L-4, T-1</b> |                                                   | <b>17.50</b> | <b>23.00</b> |

|                        | <b>L-4, T-2</b>                                   |                                                        | <b>Cr.</b>   | <b>Hr.</b>   |
|------------------------|---------------------------------------------------|--------------------------------------------------------|--------------|--------------|
| <b>Core Sessional</b>  | Design Studios                                    | ARCH 4202: Design Studio VIII                          | 8.00         | 12.00        |
|                        |                                                   | pre req. ARCH 4102: Design Studio VII                  |              |              |
|                        | Design Communication Studios                      | ARCH 4204: Interior Design Studio                      | 1.50         | 3.00         |
|                        |                                                   | ARCH 4206: Professional Training                       | 0.00         | 0.00         |
|                        | Total Cr. & Cr. Hr. Sessional                     |                                                        | <b>9.5</b>   | <b>15</b>    |
| <b>Core Theory</b>     | General Education                                 | Hum 4211: Economics                                    | 2.00         | 2.00         |
|                        |                                                   | HUM 4213: Project Management                           | 2.00         | 2.00         |
|                        | Design Related Theories                           |                                                        |              |              |
|                        | Technical System                                  | ARCH 4261: Survey Techniques                           | 2.00         | 2.00         |
|                        | History, Human Behavior & Environment             |                                                        |              |              |
|                        | Practice                                          |                                                        |              |              |
|                        | Total Cr. & Cr. Hr. Core Theory                   |                                                        | <b>6.00</b>  | <b>6.00</b>  |
| <b>Elective Theory</b> | General Education                                 |                                                        |              |              |
|                        | Technical System                                  | ARCH 4203: Ambient Technology and Building Environment | 2.00         | 2.00         |
|                        | Design Related Theories                           | ARCH 4205: Architecture in Extreme Environments        |              |              |
|                        |                                                   | ARCH 4207: Spaces & Forms in Architecture              |              |              |
|                        | History, Human Behavior & Environment             |                                                        |              |              |
|                        | Total Cr. & Cr. Hr. Elec. Theory                  |                                                        | <b>2.00</b>  | <b>2.00</b>  |
|                        | <b>Total Credit and Contact Hours of L-4, T-2</b> |                                                        | <b>17.50</b> | <b>23.00</b> |

|                        | <b>L-5, T-1</b>                                   |                                                                    | <b>Cr.</b>   | <b>Hr.</b>   |
|------------------------|---------------------------------------------------|--------------------------------------------------------------------|--------------|--------------|
| <b>Core Sessional</b>  | Design Studios                                    | ARCH 5102: Design Studio IX                                        | 10.00        | 15.00        |
|                        |                                                   | pre req. ARCH 4202: Design Studio VII                              |              |              |
|                        | Design Communication Studios                      | ARCH 5104: Seminar                                                 | 1.50         | 3.00         |
|                        | Total Cr. & Cr. Hr. Sessional                     |                                                                    | <b>11.50</b> | <b>18.00</b> |
| <b>Core Theory</b>     | General Education                                 | ARCH5175: Research Methodology                                     | 2.00         | 2.00         |
|                        |                                                   | Hum 5111: Accounting                                               | 2.00         | 2.00         |
|                        | Design Related Theories                           |                                                                    |              |              |
|                        | Technical System                                  |                                                                    |              |              |
|                        | History, Human Behavior & Environment             |                                                                    |              |              |
|                        | Practice                                          |                                                                    |              |              |
|                        | Total Cr. & Cr. Hr. Core Theory                   |                                                                    | <b>4.00</b>  | <b>4.00</b>  |
| <b>Elective Theory</b> | General Education                                 |                                                                    |              |              |
|                        | Technical System                                  |                                                                    |              |              |
|                        | Design Related Theories                           | ARCH 5103: Health Facilities Planning & Design                     | 2.00         | 2.00         |
|                        |                                                   | ARCH 5105: Industrial & Commercial Building Design                 |              |              |
|                        |                                                   | ARCH 5107: Educational, Religious & Recreational Facilities Design |              |              |
|                        | History, Human Behavior & Environment             |                                                                    |              |              |
|                        | Total Cr. & Cr. Hr. Elec. Theory                  |                                                                    | <b>2.00</b>  | <b>2.00</b>  |
|                        | <b>Total Credit and Contact Hours of L-5, T-1</b> |                                                                    | <b>17.50</b> | <b>24.00</b> |

|                        | <b>L-5, T-2</b>                                   |                                                                  | <b>Cr.</b>   | <b>Hr.</b>   |
|------------------------|---------------------------------------------------|------------------------------------------------------------------|--------------|--------------|
| <b>Core Sessional</b>  | Design Studios                                    | ARCH 5202: Design Studio X / ARCH 5208: Design Studio X (Thesis) | 12.00        | 18.00        |
|                        |                                                   | pre req. ARCH 5102: Design Studio IX                             |              |              |
|                        | Design Communication Studios                      |                                                                  |              |              |
|                        | Total Cr. Hr. Sessional                           |                                                                  | <b>12.00</b> | <b>18.00</b> |
| <b>Core Theory</b>     | General Education                                 |                                                                  |              |              |
|                        | Design Related Theories                           |                                                                  |              |              |
|                        | Technical System                                  |                                                                  |              |              |
|                        | History, Human Behavior & Environment             |                                                                  |              |              |
|                        | Practice                                          | ARCH 5273: Professional Practice                                 | 2.00         | 2.00         |
|                        | Total Cr. Hr. Core Theory                         |                                                                  | <b>2.00</b>  | <b>2.00</b>  |
| <b>Elective Theory</b> | General Education                                 |                                                                  |              |              |
|                        | Technical System                                  | ARCH 5203: Building Safety Design                                | 2.00         | 2.00         |
|                        |                                                   | ARCH 5205: Disaster & Post Disaster Responsive Architecture      |              |              |
|                        | Design Related Theories                           | ARCH 5207: Architecture for Children and Differently Able People |              |              |
|                        |                                                   | ARCH 5209: Architectural Conservation                            |              |              |
|                        | History, Human Behavior & Environment             |                                                                  |              |              |
|                        | Total Cr. Hr. Elec. Theory                        |                                                                  | <b>2.00</b>  | <b>2.00</b>  |
|                        | <b>Total Credit and Contact Hours of L-5, T-2</b> |                                                                  | <b>16.00</b> | <b>22.00</b> |



# DEPT OF ENVIRONMENTAL, WATER RESOURCES AND COASTAL ENGINEERING

**Total Credit Hours: 160.00**

## Level- 1, Term – I

| Course No                                    | Course Name                                             | Type of Course | Credit Hour | Contact Hour |
|----------------------------------------------|---------------------------------------------------------|----------------|-------------|--------------|
| CHEM 101                                     | Fundamentals of Chemistry                               | Theory         | 3.00        | 3.00         |
| MATH 101                                     | Differential and Integral Calculus                      |                | 3.00        | 3.00         |
| EECE 167                                     | Basic Electrical Technology                             |                | 3.00        | 3.00         |
| EWCE 101                                     | Analytical Mechanics                                    |                | 3.00        | 3.00         |
| EWCE 131                                     | Ecology and Environmental Pollution                     |                | 3.00        | 3.00         |
| Subtotal (Theory)                            |                                                         |                | 15.00       | 15.00        |
| CHEM 102                                     | Chemistry Sessional                                     | Sessional      | 1.50        | 3.00         |
| ME 142                                       | Workshop Sessional                                      |                | 1.50        | 3.00         |
| EWCE 100                                     | Engineering Drawing and Computer Aided Design Sessional |                | 1.50        | 3.00         |
| Subtotal (Sessional)                         |                                                         |                | 4.50        | 9.00         |
| Total = Credits: 19.50, Contact hours: 24.00 |                                                         |                |             |              |

## Level – 1, Term – II

| Course No                                    | Course Name                                       | Type of Course | Credit Hour | Contact Hour |
|----------------------------------------------|---------------------------------------------------|----------------|-------------|--------------|
| PHY 101                                      | Waves and Oscillations, Optics and Modern Physics | Theory         | 3.00        | 3.00         |
| MATH 103                                     | Differential Equations and Matrix                 |                | 3.00        | 3.00         |
| GEBS 101                                     | Bangladesh Studies                                |                | 2.00        | 2.00         |
| EWCE 103                                     | Surveying                                         |                | 3.00        | 3.00         |
| EWCE 105                                     | Environmental Chemistry                           |                | 3.00        | 3.00         |
| Subtotal (Theory)                            |                                                   |                | 14.00       | 14.00        |
| PHY 102                                      | Physics Sessional                                 | Sessional      | 1.50        | 3.00         |
| LANG 102                                     | Communicative English-I                           |                | 1.50        | 3.00         |
| EWCE 104                                     | Practical Surveying                               |                | 1.50        | 3.00         |
| Subtotal (Sessional)                         |                                                   |                | 4.50        | 9.00         |
| Total = Credits: 18.50, Contact hours: 23.00 |                                                   |                |             |              |

## Level – 2, Term – I

| Course No                                    | Course Name                                               | Type of Course | Credit Hour | Contact Hour |
|----------------------------------------------|-----------------------------------------------------------|----------------|-------------|--------------|
| GELM 275                                     | Leadership and Management                                 | Theory         | 2.00        | 2.00         |
| MATH 201                                     | Vector Analysis, Laplace Transform & Co-ordinate Geometry |                | 3.00        | 3.00         |
| EWCE 201                                     | Construction Materials                                    |                | 3.00        | 3.00         |
| GES 201                                      | Fundamentals of Sociology                                 |                | 2.00        | 2.00         |
| EWCE 205                                     | Numerical Methods                                         |                | 2.00        | 2.00         |
| EWCE 211                                     | Mechanics of Solids                                       |                | 4.00        | 4.00         |
| Subtotal (Theory)                            |                                                           |                | 16.00       | 16.00        |
| CSE 278                                      | Computer Programming and Computations Sessional           | Sessional      | 1.50        | 3.00         |
| LANG 202                                     | Communicative English-II                                  |                | 1.50        | 3.00         |
| EWCE 212                                     | Structural Mechanics and Materials Sessional              |                | 1.50        | 3.00         |
| Subtotal (Sessional)                         |                                                           |                | 4.50        | 9.00         |
| Total = Credits: 20.50, Contact hours: 25.00 |                                                           |                |             |              |

## Level – 2, Term – II

| Course No           | Course Name                                            | Type of Course | Credit Hour | Contact Hour |
|---------------------|--------------------------------------------------------|----------------|-------------|--------------|
| GEA 201/<br>GEE 201 | Principles of Accounting/<br>Fundamentals of Economics | Theory         | 2.00        | 2.00         |
| MATH 203            | Applied Math for Engineering                           |                | 3.00        | 3.00         |
| EWCE 203            | Geology and Geomorphology                              |                | 3.00        | 3.00         |
| EWCE 261            | Fluid Mechanics                                        |                | 3.00        | 3.00         |
| EWCE 263            | Engineering Hydrology                                  |                | 3.00        | 3.00         |
|                     | Subtotal (Theory)                                      |                | 14.00       | 14.00        |
| EWCE 200            | Details of Construction & Quantity Surveying           | Sessional      | 1.50        | 3.00         |
| EWCE 206            | GIS in Environmental and Water Resources Engineering   |                | 1.50        | 3.00         |
| EWCE 262            | Fluid Mechanics Sessional                              |                | 1.50        | 3.00         |
|                     | Subtotal (Sessional)                                   |                | 4.50        | 9.00         |
|                     | Total = Credits: 18.50, Contact hours: 23.00           |                |             |              |

### Level- 3, Term - I

| Course No | Course Name                                  | Type of Course | Credit Hour | Contact Hour |
|-----------|----------------------------------------------|----------------|-------------|--------------|
| EWCE 311  | Structure Analysis and Design I              | Theory         | 3.00        | 3.00         |
| CE 385    | Design of Concrete Structures I              |                | 3.00        | 3.00         |
| EWCE 331  | Water Supply Engineering                     |                | 3.00        | 3.00         |
| EWCE 341  | Principles of Soil Mechanics                 |                | 3.00        | 3.00         |
| EWCE 351  | Transportation Engineering                   |                | 4.00        | 4.00         |
|           | Subtotal (Theory)                            |                | 16.00       | 16.00        |
| EWCE 332  | Environment Engineering Sessional            | Sessional      | 1.50        | 3.00         |
| EWCE 342  | Soil Mechanics Sessional                     |                | 1.50        | 3.00         |
| EWCE 352  | Transportation Engineering Sessional         |                | 1.50        | 3.00         |
|           | Subtotal (Sessional)                         |                | 4.50        | 9.00         |
|           | Total = Credits: 20.50, Contact hours: 25.00 |                |             |              |

### Level - 4, Term - I

| Course No | Course Name                                                          | Type of Course | Credit Hour | Contact Hour |
|-----------|----------------------------------------------------------------------|----------------|-------------|--------------|
| GEEM 445  | Engineering Ethics and Professional Practices                        | Theory         | 2.00        | 2.00         |
| EWCE 411  | Structural Analysis and Design II                                    |                | 3.00        | 3.00         |
| EWCE 431  | Environment and Social Impact Assessment                             |                | 3.00        | 3.00         |
| EWCE 461  | River Engineering and Flood Management                               |                | 3.00        | 3.00         |
| EWCE 471  | Coastal Engineering                                                  |                | 3.00        | 3.00         |
|           | Subtotal (Theory)                                                    |                | 14.00       | 14.00        |
| EWCE 432  | Environmental Engineering Design Sessional                           | Sessional      | 1.50        | 3.00         |
| EWCE 462  | Computer Applications in Water and Environmental Engineering         |                | 1.50        | 3.00         |
| EWCE 464  | Advanced GIS and RS in Environmental and Water Resources Engineering |                | 1.50        | 3.00         |
| EWCE 400  | Final Year Research Project (FYP)                                    | Project        | 2.00        | 4.00         |
|           | Subtotal (Sessional & Project)                                       |                | 6.50        | 13.00        |
|           | Total = Credits: 20.50, Contact hours: 27.00                         |                |             |              |

### Level - 4, Term - II (Major: Environmental Engg)

| Course No                    | Course Name                                                                                                                       | Type of Course    | Credit Hour | Contact Hour |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------|--------------|
| EWCE 467                     | Integrated Water Resource Management (IWRM)                                                                                       | Compulsory Theory | 3.00        | 3.00         |
| EWCE 433                     | Solid and Hazardous Waste Management                                                                                              | Major Theory      | 3.00        | 3.00         |
| EWCE 435                     | Air Pollution and Control                                                                                                         |                   | 2.00        | 2.00         |
| EWCE 437                     | Industrial Waste and Waste Water Treatment                                                                                        |                   | 3.00        | 3.00         |
| EWCE 469/ 473/ 475/ 477/ 479 | Mathematical Modelling in Water Resources Engineering/ Waterway Engineering/ Urban Hydrology/ Climatology/Groundwater Engineering | Minor Theory      | 2.00        | 2.00         |
|                              | Subtotal (Theory)                                                                                                                 |                   | 13.00       | 13.00        |
| EWCE 400                     | Final Year Research Project (FYP)                                                                                                 | Thesis            | 4.00        | 8.00         |
| EWCE 434                     | Environmental Modelling Sessional                                                                                                 | Sessional         | 1.50        | 3.00         |
| EWCE 436/ 438                | Treatment plant design sessional/ Building Service Sessional                                                                      |                   | 1.50        | 3.00         |
|                              | Subtotal (Sessional & Project)                                                                                                    |                   | 7.00        | 14.00        |
|                              | Total = Credits: 20.00, Contact hours: 27.00                                                                                      |                   |             |              |

### Level - 3, Term - II

| Course No                                    | Course Name                                  | Type of Course | Credit Hour | Contact Hour |
|----------------------------------------------|----------------------------------------------|----------------|-------------|--------------|
| GEPM 375                                     | Project Planning and Construction Management | Theory         | 3.00        | 3.00         |
| CE 387                                       | Design of Concrete Structure II              |                | 3.00        | 3.00         |
| EWCE 333                                     | Waste Water Engineering and Sanitation       |                | 4.00        | 4.00         |
| EWCE 343                                     | Geotechnical and Foundation Engineering      |                | 3.00        | 3.00         |
| EWCE 361                                     | Open Channel Hydraulics                      |                | 3.00        | 3.00         |
| Subtotal (Theory)                            |                                              |                | 16.00       | 16.00        |
| EWCE 300                                     | Students' Internship Program (SIP)           | Internship     | 1.00        | 2+.00        |
| CE 386                                       | Concrete Structure Design Sessional I        | Sessional      | 1.50        | 3.00         |
| EWCE 362                                     | Open Channel Hydraulics Sessional            |                | 1.50        | 3.00         |
| GERM 352                                     | Fundamentals of Research Methodology         |                | 2.00        | 4.00         |
| Subtotal (Internship & Sessional)            |                                              |                | 6.00        | 12.00        |
| Total = Credits: 22.00, Contact hours: 28.00 |                                              |                |             |              |

### Level - 4, Term - II (Major: Water Resources Engg)

| Course No                  | Course Name                                                                                                                                                | Type of Course    | Credit Hour | Contact Hour |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------|--------------|
| EWCE 467                   | Integrated Water Resource Management (IWRM)                                                                                                                | Compulsory Theory | 3.00        | 3.00         |
| EWCE 463                   | Irrigation and Drainage Engineering                                                                                                                        | Major Theory      | 3.00        | 3.00         |
| EWCE 465                   | Design of Hydraulic Structures                                                                                                                             |                   | 3.00        | 3.00         |
| EWCE 477/ 479              | Climatology / Groundwater Engineering                                                                                                                      |                   | 2.00        | 2.00         |
| EWCE 435/ 439/481/ 483/485 | Air Pollution and Control / Natural Resources & Renewable Energy/ Climate Change & Disaster Management/ Building Services/ Environmental Management System | Minor Theory      | 2.00        | 2.00         |
|                            | Subtotal (Theory)                                                                                                                                          |                   | 13.00       | 13.00        |
| EWCE 400                   | Final Year Research Project (FYP)                                                                                                                          | Thesis            | 4.00        | 8.00         |
| EWCE 466                   | Hydraulic Structure Design Sessional                                                                                                                       | Sessional         | 1.50        | 3.00         |
| EWCE 468                   | Water Modelling Sessional                                                                                                                                  |                   | 1.50        | 3.00         |
|                            | Subtotal (Sessional & Project)                                                                                                                             |                   | 7.00        | 14.00        |
|                            | Total = Credits: 20.00, Contact hours: 27.00                                                                                                               |                   |             |              |



# DEPT OF PETROLEUM AND MINING ENGINEERING

**Total Credit Hours: 160.00**

## LEVEL – 1, TERM – I

| Course Code                   | Course Name                                      | Contact hour/week | Credits      |
|-------------------------------|--------------------------------------------------|-------------------|--------------|
| <b>THEORY</b>                 |                                                  |                   |              |
| PHY 101                       | Physics                                          | 3.00              | 3.00         |
| MATH 101                      | Differential and Integral Calculus               | 3.00              | 3.00         |
| PME 111                       | Geology for Petroleum and Mining Engineers       | 3.00              | 3.00         |
| PME 113                       | Introduction to Petroleum and Mining Engineering | 3.00              | 3.00         |
| <b>SESSIONAL / LABORATORY</b> |                                                  |                   |              |
| PHY 102                       | Physics Sessional                                | 3.00              | 1.50         |
| ME 176                        | Workshop Practice                                | 3.00              | 1.50         |
| ME 180                        | Engineering Drawing and CAD                      | 3.00              | 1.50         |
| PME 112                       | Geology Laboratory                               | 3.00              | 1.50         |
| <b>Total:</b>                 |                                                  | <b>24.00</b>      | <b>18.00</b> |

Contact Hours= 12.00 (Theo) + 12.0 (Lab) = 24.00 hours/week

Total Credits = 18.00

No of Theory Courses = 4

No of Laboratory Courses = 4

## LEVEL – 1, TERM – II

| Course Code                 | Course Name                                    | Contact hour/week | Credits      |
|-----------------------------|------------------------------------------------|-------------------|--------------|
| <b>THEORY</b>               |                                                |                   |              |
| PME 121                     | Petroleum Engineering Thermodynamics           | 2.00              | 2.00         |
| GES 101                     | Fundamentals of Sociology                      | 2.00              | 2.00         |
| GEBS 101                    | Bangladesh Studies                             | 2.00              | 2.00         |
| MATH 103                    | Differential Equations and Matrix              | 3.00              | 3.00         |
| CHEM 119                    | Fundamentals of Chemistry                      | 3.00              | 3.00         |
| PME 123                     | Reservoir Rock and Fluid Properties            | 3.00              | 3.00         |
| <b>SESSIONAL/LABORATORY</b> |                                                |                   |              |
| CHEM 102                    | Chemistry Sessional                            | 3.00              | 1.50         |
| PME 124                     | Reservoir Rock and Fluid Properties Laboratory | 3.00              | 1.50         |
| LANG 102                    | Communicative English-I                        | 3.00              | 1.50         |
| <b>Total:</b>               |                                                | <b>24.00</b>      | <b>19.50</b> |

Contact Hours= 15.00 (Theo) + 9.00 (Lab) = 24 hours/week

Total Credits = 19.50

No of Theory Courses = 6

No of Laboratory Courses = 3

## LEVEL – 2, TERM – I

| Course Code                   | Course Name                                                    | Contact hour/week | Credits      |
|-------------------------------|----------------------------------------------------------------|-------------------|--------------|
| <b>THEORY</b>                 |                                                                |                   |              |
| EECE 261                      | Fundamentals of Electrical and Electronic Engineering          | 3.00              | 3.00         |
| MATH 201                      | Vector Analysis, Laplace Transformation & Co-ordinate Geometry | 3.00              | 3.00         |
| PME 211                       | Heat and Mass Transfer                                         | 2.00              | 2.00         |
| CE 281                        | Engineering Mechanics                                          | 3.00              | 3.00         |
| CE 283                        | Strength of Materials                                          | 3.00              | 3.00         |
| PME 211                       | Rock Mechanics for Petroleum and Mining Engineers              | 3.00              | 3.00         |
| <b>SESSIONAL / LABORATORY</b> |                                                                |                   |              |
| LANG 202                      | Communicative English-II                                       | 3.00              | 1.50         |
| EECE 262                      | Electrical and Electronic Engineering Laboratory               | 3.00              | 1.50         |
| PME 212                       | Rock Mechanics Laboratory                                      | 3.00              | 1.50         |
| PME 222                       | Drilling Fluid Laboratory                                      | 3.00              | 1.50         |
| <b>Total:</b>                 |                                                                | <b>29.00</b>      | <b>23.00</b> |

Contact Hours: 17.00 (Theo) + 11.00 (Lab) = 29.00 hours/week

Total Credits = 23.00

No of Theory Courses = 6

No of Laboratory Courses = 4

## LEVEL – 2, TERM – II

| Course Code                   | Course Name                              | Contact hour/week | Credits     |
|-------------------------------|------------------------------------------|-------------------|-------------|
| <b>THEORY</b>                 |                                          |                   |             |
| CSE 271                       | Introduction to Computer Programming     | 2.00              | 2.00        |
| PME 213                       | Exploration Geophysics                   | 2.00              | 2.00        |
| ME 271                        | Fluid Mechanics                          | 3.00              | 3.00        |
| PME 231                       | Mining System                            | 3.00              | 3.00        |
| PME 233                       | Shaft sinking and Tunneling              | 3.00              | 3.00        |
| GEEA 201                      | Fundamentals of Economics and Accounting | 3.00              | 3.00        |
| <b>SESSIONAL / LABORATORY</b> |                                          |                   |             |
| CSE 272                       | Computer Programming Sessional           | 1.50              | 0.75        |
| PME 214                       | Exploration Geophysics Laboratory        | 3.00              | 1.50        |
| PME 232                       | Mining System Laboratory                 | 3.00              | 1.50        |
| ME 272                        | Fluid Mechanics Laboratory               | 1.50              | 0.75        |
| <b>Total:</b>                 |                                          | <b>25</b>         | <b>20.5</b> |

Contact Hours: 16.00 (Theo) + 9.00 (Lab) = 25 hours/week

Total Credits = 20.50

No of Theory Courses = 6

No of Laboratory Courses = 4

**LEVEL – 3, TERM – I**

| Course Code                   | Course Name                                      | Contact hour/week | Credits      |
|-------------------------------|--------------------------------------------------|-------------------|--------------|
| <b>THEORY</b>                 |                                                  |                   |              |
| PME 331                       | Mine Instrumentation and Machineries             | 3.00              | 3.00         |
| PME 333                       | Ground Water Managements in Mining               | 2.00              | 2.00         |
| PME 321                       | Well Logging and Formation Evaluation            | 3.00              | 3.00         |
| PME 323                       | Drilling Engineering                             | 3.00              | 3.00         |
| GELM 375                      | Leadership and Management                        | 2.00              | 2.00         |
| <b>SESSIONAL / LABORATORY</b> |                                                  |                   |              |
| PME 332                       | Mine Instrumentation and Machineries Laboratory  | 3.00              | 1.50         |
| PME 322                       | Well Logging and Formation Evaluation Laboratory | 3.00              | 1.50         |
| PME 324                       | Rig Floor Simulation Laboratory                  | 3.00              | 1.50         |
| GERM 352                      | Fundamentals of Research Methodology             | 4.00              | 2.00         |
| <b>Total:</b>                 |                                                  | <b>26.00</b>      | <b>19.50</b> |

Contact Hours: 13.00 (Theo) + 13.00 (Lab) = 26.0 hours/week

Total Credits = 19.50

No of Theory Courses = 5

No of Laboratory Courses = 4

**LEVEL – 4, TERM – I**

| Course Code                   | Course Name                                               | Contact hour/week | Credits      |
|-------------------------------|-----------------------------------------------------------|-------------------|--------------|
| <b>THEORY</b>                 |                                                           |                   |              |
| PME 421                       | Well Test Analysis                                        | 3.00              | 3.00         |
| PME 423                       | Reservoir Modeling and Simulation                         | 3.00              | 3.00         |
| PME 431                       | Mine ventilation and Environmental Engineering            | 3.00              | 3.00         |
| PME 425                       | Petroleum Refining and LPG Technology                     | 3.00              | 3.00         |
| GEEM 447                      | Engineering Ethics and Moral Philosophy                   | 2.00              | 2.00         |
| <b>SESSIONAL / LABORATORY</b> |                                                           |                   |              |
| PME 410                       | Research Project I                                        | 4.00              | 2.00         |
| PME 424                       | Reservoir Modeling and Simulation Sessional               | 3.00              | 1.50         |
| PME 432                       | Mine Ventilation and Environmental Engineering Laboratory | 3.00              | 1.50         |
| <b>Total:</b>                 |                                                           | <b>24.00</b>      | <b>19.00</b> |

Contact Hours: 14.00 (Theo) + 10.00 (Lab) = 24.0 hours/week

Total Credits = 19.00

No of Theory Courses = 5

No of Laboratory Courses = 3

**LEVEL – 3 (TERM – II)**

| Course Code                   | Course Name                               | Contact hour/week | Credits      |
|-------------------------------|-------------------------------------------|-------------------|--------------|
| <b>THEORY</b>                 |                                           |                   |              |
| PME 325                       | Petroleum Production Engineering          | 3.00              | 3.00         |
| PME 327                       | Natural Gas Processing and LNG Technology | 3.00              | 3.00         |
| PME 329                       | Reservoir Engineering                     | 3.00              | 3.00         |
| PME 335                       | Mine survey                               | 3.00              | 3.00         |
| GESL 317                      | Environment, Sustainability and Law       | 2.00              | 2.00         |
| PME 337                       | Rock Blasting and Explosive Technology    | 3.00              | 3.00         |
| <b>SESSIONAL / LABORATORY</b> |                                           |                   |              |
| PME 328                       | Natural Gas Processing and LPG Laboratory | 3.00              | 1.50         |
| PME 336                       | Mine Survey Laboratory                    | 3.00              | 1.50         |
| PME 310                       | Industrial Training                       | 4 weeks           | 1.00         |
| <b>Total:</b>                 |                                           | <b>23+4 weeks</b> | <b>21.00</b> |

Contact Hours: 17.00+ (Theo) + 6.00 (Lab) = 23 hours/week + 4 weeks

Total Credits = 21.00

No of Theory Courses = 6

No of Laboratory Courses = 3

**LEVEL – 4 (TERM – II)**

| Course Code                   | Course Name                                  | Contact hour/week | Credits      |
|-------------------------------|----------------------------------------------|-------------------|--------------|
| <b>THEORY</b>                 |                                              |                   |              |
| GEPM 477                      | Project Management and Finance               | 3.00              | 3.00         |
| PME 427                       | Transmission and Distribution of Natural Gas | 3.00              | 3.00         |
| PME 429                       | Enhanced Oil Recovery Techniques             | 2.00              | 2.00         |
| PME 433                       | Mineral Processing                           | 3.00              | 3.00         |
| PME 435                       | Mine Planning and Design                     | 3.00              | 3.00         |
| <b>SESSIONAL / LABORATORY</b> |                                              |                   |              |
| PME 410                       | Research Project II                          | 8.00              | 4.00         |
| PME 434                       | Minerals Processing Laboratory               | 3.00              | 1.50         |
| <b>Total:</b>                 |                                              | <b>25.00</b>      | <b>19.50</b> |

Contact Hours: 14.00 (Theo) + 11.00 (Lab) = 25.00 hours/week

Total Credits = 19.50

No of Theory Courses = 5

No of Laboratory Courses = 2



# FACULTY OF ELECTRICAL AND COMPUTER ENGINEERING

## DEPT OF COMPUTER SCIENCE AND ENGINEERING

Total Credit Hours: 160.00

### Level-1, Term-I

| Course Code                                   | Course Name                                       | Contact Hour/Week |           | Credits |
|-----------------------------------------------|---------------------------------------------------|-------------------|-----------|---------|
|                                               |                                                   | Theory            | Sessional |         |
| CSE -101                                      | Discrete Mathematics                              | 3.00              |           | 3.00    |
| CHEM-101                                      | Fundamentals of Chemistry                         | 3.00              | -         | 3.00    |
| CHEM-102                                      | Chemistry Sessional                               | -                 | 3.00      | 1.50    |
| EECE-163                                      | Electrical Circuit Analysis                       | 3.00              | -         | 3.00    |
| EECE-164                                      | Electrical Circuit Analysis Sessional             | -                 | 1.50      | 0.75    |
| GEBS-101                                      | Bangladesh Studies                                | 2.00              | -         | 2.00    |
| MATH-101                                      | Differential and Integral Calculus                | 3.00              | -         | 3.00    |
| PHY-101                                       | Waves and Oscillations, Optics and Modern Physics | 3.00              | -         | 3.00    |
| PHY-102                                       | Physics Sessional                                 | -                 | 3.00      | 1.50    |
| Total:                                        |                                                   | 17.00             | 7.50      | 20.75   |
| Total = Contact hours: 24.50; Credits : 20.75 |                                                   |                   |           |         |

### Level-1, Term-II

| Course Code                                   | Course Name                                     | Contact Hour/Week |           | Credits |
|-----------------------------------------------|-------------------------------------------------|-------------------|-----------|---------|
|                                               |                                                 | Theory            | Sessional |         |
| CSE-103                                       | Digital Logic Design                            | 3.00              | -         | 3.00    |
| CSE-104                                       | Digital Logic Design Sessional                  | -                 | 3.00      | 1.50    |
| CSE-105                                       | Structured Programming Language                 | 3.00              | -         | 3.00    |
| CSE-106                                       | Structured Programming Language Sessional       | -                 | 3.00      | 1.50    |
| EECE-169                                      | Electronic Devices and Circuits                 | 3.00              | -         | 3.00    |
| EECE-170                                      | Electronic Devices and Circuits Sessional       | -                 | 1.50      | 0.75    |
| ENG-102                                       | Communicative English-I                         | -                 | 3.00      | 1.50    |
| MATH-105                                      | Vector Analysis, Matrix and Coordinate Geometry | 3.00              | -         | 3.00    |
| ME-122                                        | Fundamental of Mechanical Engineering Sessional | -                 | 4.00      | 2.00    |
| Total:                                        |                                                 | 12.00             | 13.50     | 19.25   |
| Total = Contact hours: 25.50; Credits : 19.25 |                                                 |                   |           |         |

### Level-2, Term-I

| Course Code                                   | Course Name                                                     | Contact Hour/Week |           | Credits |
|-----------------------------------------------|-----------------------------------------------------------------|-------------------|-----------|---------|
|                                               |                                                                 | Theory            | Sessional |         |
| CSE-203                                       | Data Structures and Algorithms-I                                | 3.00              | -         | 3.00    |
| CSE-204                                       | Data Structures and Algorithms-I Sessional                      | -                 | 3.00      | 1.50    |
| CSE-205                                       | Object Oriented Programming Language                            | 3.00              | -         | 3.00    |
| CSE-206                                       | Object Oriented Programming Language Sessional-I                | -                 | 3.00      | 1.50    |
| CSE-217                                       | Theory of Computation                                           | 3.00              | -         | 3.00    |
| EECE-269                                      | Electrical Drives and Instrumentation                           | 3.00              | -         | 3.00    |
| EECE-270                                      | Electrical Drives and Instrumentation Sessional                 | -                 | 1.50      | 0.75    |
| ENG-202                                       | Communicative English-II                                        | -                 | 3.00      | 1.50    |
| MATH-205                                      | Differential Equations, Laplace Transform and Fourier Transform | 3.00              | -         | 3.00    |
| Total:                                        |                                                                 | 15.00             | 10.50     | 20.25   |
| Total = Contact hours: 25.50; Credits : 20.25 |                                                                 |                   |           |         |

### Level -2, Term-II

| Course Code                                   | Course Name                                       | Contact Hour/Week |           | Credits |
|-----------------------------------------------|---------------------------------------------------|-------------------|-----------|---------|
|                                               |                                                   | Theory            | Sessional |         |
| CE-250                                        | Engineering Drawing and CAD Sessional             | -                 | 3.00      | 1.50    |
| CSE-213                                       | Computer Architecture                             | 3.00              | -         | 3.00    |
| CSE-215                                       | Data Structures and Algorithms-II                 | 3.00              | -         | 3.00    |
| CSE-216                                       | Data Structures and Algorithms-II Sessional       | -                 | 3.00      | 1.50    |
| CSE-219                                       | Mathematical Analysis for Computer Science        | 3.00              | -         | 3.00    |
| CSE-220                                       | Object Oriented Programming Sessional-II          | -                 | 1.50      | 0.75    |
| EECE-279                                      | Digital Electronics and Pulse Technique           | 3.00              | -         | 3.00    |
| EECE-280                                      | Digital Electronics and Pulse Technique Sessional | -                 | 1.50      | 0.75    |
| GELM-275                                      | Leadership and Management                         | 2.00              | -         | 2.00    |
| MATH-207                                      | Complex Variable and Statistics                   | 3.00              | -         | 3.00    |
| Total:                                        |                                                   | 17.00             | 9.00      | 21.50   |
| Total = Contact hours: 26.00; Credits : 21.50 |                                                   |                   |           |         |

### Level-3, Term-I

| Course Code                                          | Course Name                                                        | Contact Hour/ Week |              | Credits      |
|------------------------------------------------------|--------------------------------------------------------------------|--------------------|--------------|--------------|
|                                                      |                                                                    | Theory             | Sessional    |              |
| CSE-301                                              | Database Management Systems                                        | 3.00               | -            | 3.00         |
| CSE-302                                              | Database Management Systems Sessional                              | -                  | 3.00         | 1.50         |
| CSE-303                                              | Compiler                                                           | 3.00               | -            | 3.00         |
| CSE-304                                              | Compiler Sessional                                                 | -                  | 1.50         | 0.75         |
| CSE-305                                              | Microprocessors, Micro-controllers and Assembly Language           | 3.00               | -            | 3.00         |
| CSE-306                                              | Microprocessors, Micro-controllers and Assembly Language Sessional | -                  | 3.00         | 1.50         |
| CSE-307                                              | Operating System                                                   | 3.00               | -            | 3.00         |
| CSE-308                                              | Operating System Sessional                                         | -                  | 1.50         | 0.75         |
| CSE-317                                              | Data Communication                                                 | 3.00               | -            | 3.00         |
| CSE-318                                              | Data Communication Sessional                                       | -                  | 1.50         | 0.75         |
| <b>Total:</b>                                        |                                                                    | <b>15.00</b>       | <b>10.50</b> | <b>20.25</b> |
| <b>Total = Contact hours: 25.50; Credits : 20.25</b> |                                                                    |                    |              |              |

### Level-3, Term II

| Course Code                                          | Course Name                          | Contact Hour/ Week |              | Credits      |
|------------------------------------------------------|--------------------------------------|--------------------|--------------|--------------|
|                                                      |                                      | Theory             | Sessional    |              |
| CSE-309                                              | Computer Network                     | 3.00               | -            | 3.00         |
| CSE-310                                              | Computer Network Sessional           | -                  | 3.00         | 1.50         |
| CSE-315                                              | Digital System Design                | 2.00               | -            | 2.00         |
| CSE-316                                              | Digital System Design Sessional      | -                  | 1.50         | 0.75         |
| CSE-319                                              | Software Engineering                 | 3.00               | -            | 3.00         |
| CSE-320                                              | Software Engineering Sessional       | -                  | 1.50         | 0.75         |
| CSE-364                                              | Software Development Project - I     | -                  | 3.00         | 1.50         |
| GERM-352                                             | Fundamentals of Research Methodology | -                  | 4.00         | 2.00         |
| GES-301                                              | Fundamentals of Sociology            | 2.00               | -            | 2.00         |
| GESL-303                                             | Environment, Sustainability and Law  | 2.00               | -            | 2.00         |
| <b>Total:</b>                                        |                                      | <b>12.00</b>       | <b>13.00</b> | <b>18.50</b> |
| <b>Total = Contact hours: 25.00; Credits : 18.50</b> |                                      |                    |              |              |

### \*LEVEL-3 Industrial Training

| Course Code | Course Name         | Contact Hour/ Week |           | Credits |
|-------------|---------------------|--------------------|-----------|---------|
|             |                     | Theory             | Sessional |         |
| CSE-350     | Industrial Training | -                  | 4 Weeks   | 1.00    |

**\*Note:** This course is mandatory. Evaluation report from industry is to be submitted at the end of the training and accordingly to be incorporated in the tabulation sheet.

### Level-4, Term-I

| Course Code                                          | Course Name                             | Contact Hour/ Week |              | Credits      |
|------------------------------------------------------|-----------------------------------------|--------------------|--------------|--------------|
|                                                      |                                         | Theory             | Sessional    |              |
| CSE-400                                              | Final Year Research & Design Project    | -                  | 6.00         | 3.00         |
| CSE-405                                              | Computer Interfacing                    | 3.00               | -            | 3.00         |
| CSE-406                                              | Computer Interfacing Sessional          | -                  | 1.50         | 0.75         |
| CSE-415                                              | Human Computer Interaction              | 3.00               | -            | 3.00         |
| CSE-429                                              | Computer Security                       | 3.00               | -            | 3.00         |
| CSE-464                                              | Software Development Project-II         | -                  | 3.00         | 1.50         |
| CSE-4XO                                              | Technical Elective-I                    | 3.00               | -            | 3.00         |
| GEEM-433                                             | Engineering Ethics and Moral Philosophy | 2.00               | -            | 2.00         |
| <b>Total:</b>                                        |                                         | <b>14.00</b>       | <b>10.50</b> | <b>19.25</b> |
| <b>Total = Contact hours: 24.50; Credits : 19.25</b> |                                         |                    |              |              |

### Technical Elective-I

| Course Code | Course Name                                  | Contact Hour/ Week |           | Credits |
|-------------|----------------------------------------------|--------------------|-----------|---------|
|             |                                              | Theory             | Sessional |         |
| CSE-407     | Applied Statistics and Queuing Theory        | 3.00               | -         | 3.00    |
| CSE-417     | Blockchaining and Cryptocurrency Technology  | 3.00               | -         | 3.00    |
| CSE-419     | Advanced Algorithms                          | 3.00               | -         | 3.00    |
| CSE-421     | Basic Graph Theory                           | 3.00               | -         | 3.00    |
| CSE-423     | Fault Tolerance System                       | 3.00               | -         | 3.00    |
| CSE-425     | Basic Multimedia Theory                      | 3.00               | -         | 3.00    |
| CSE-427     | Digital Image Processing                     | 3.00               | -         | 3.00    |
| CSE-431     | Object Oriented Software Engineering         | 3.00               | -         | 3.00    |
| CSE-433     | Artificial Neural Networks and Fuzzy Systems | 3.00               | -         | 3.00    |
| CSE-435     | Distributed Algorithms                       | 3.00               | -         | 3.00    |
| CSE-437     | Bioinformatics                               | 3.00               | -         | 3.00    |
| CSE-439     | Robotics                                     | 3.00               | -         | 3.00    |
| CSE-447     | Telecommunication Engineering                | 3.00               | -         | 3.00    |



## Level-4, Term-II

| Course Code                                          | Course Name                               | Contact Hour/Week |              | Credits      |
|------------------------------------------------------|-------------------------------------------|-------------------|--------------|--------------|
|                                                      |                                           | Theory            | Sessional    |              |
| CSE-400                                              | Final Year Research & Design Project      | -                 | 6.00         | 3.00         |
| CSE-401                                              | Information System Design and Development | 3.00              | -            | 3.00         |
| CSE-403                                              | Artificial Intelligence                   | 3.00              | -            | 3.00         |
| CSE-404                                              | Artificial Intelligence Sessional         | -                 | 1.50         | 0.75         |
| CSE-413                                              | Computer Graphics                         | 3.00              | -            | 3.00         |
| CSE-414                                              | Computer Graphics Sessional               | -                 | 1.50         | 0.75         |
| CSE-4XO                                              | Technical Elective-II                     | 3.00              | -            | 3.00         |
| CSE-4XE                                              | Technical Elective-II Sessional           | -                 | 1.50         | 0.75         |
| GEPM-463                                             | Project Management and Finance            | 2.00              | -            | 2.00         |
| <b>Total:</b>                                        |                                           | <b>14.00</b>      | <b>10.50</b> | <b>19.25</b> |
| <b>Total = Contact hours: 24.50; Credits : 19.25</b> |                                           |                   |              |              |

## Technical Elective-II

| Course Code | Course Name                                    | Contact Hour/Week |           | Credits |
|-------------|------------------------------------------------|-------------------|-----------|---------|
|             |                                                | Theory            | Sessional |         |
| CSE-411     | VLSI Design                                    | 3.00              | -         | 3.00    |
| CSE-412     | VLSI Design Sessional                          | -                 | 1.50      | 0.75    |
| CSE-441     | Machine Learning                               | 3.00              | -         | 3.00    |
| CSE-442     | Machine Learning Sessional                     | -                 | 1.50      | 0.75    |
| CSE-443     | Pattern Recognition                            | 3.00              | -         | 3.00    |
| CSE-444     | Pattern Recognition Sessional                  | -                 | 1.50      | 0.75    |
| CSE-445     | Digital Signal Processing                      | 3.00              | -         | 3.00    |
| CSE-446     | Digital Signal Processing Sessional            | -                 | 1.50      | 0.75    |
| CSE-449     | Mobile and Ubiquitous Computing                | 3.00              | -         | 3.00    |
| CSE-450     | Mobile and Ubiquitous Computing Sessional      | -                 | 1.50      | 0.75    |
| CSE-451     | Simulation and Modeling                        | 3.00              | -         | 3.00    |
| CSE-452     | Simulation and Modeling Sessional              | -                 | 1.50      | 0.75    |
| CSE-455     | Natural Language Processing                    | 3.00              | -         | 3.00    |
| CSE-456     | Natural Language Processing Sessional          | -                 | 1.50      | 0.75    |
| CSE-457     | Advanced Database Management Systems           | 3.00              | -         | 3.00    |
| CSE-458     | Advanced Database Management Systems Sessional | -                 | 1.50      | 0.75    |
| CSE-459     | Internet of Things (IoT)                       | 3.00              | -         | 3.00    |
| CSE-460     | Internet of Things (IoT) Sessional             | -                 | 1.50      | 0.75    |
| CSE-461     | Industrial Revolution                          | 3.00              | -         | 3.00    |
| CSE-462     | Industrial Revolution Sessional                | -                 | 1.50      | 0.75    |
| CSE-465     | Cyber & Physical Security                      | 3.00              | -         | 3.00    |
| CSE-466     | Cyber & Physical Security Sessional            | -                 | 1.50      | 0.75    |

# DEPT OF ELECTRICAL, ELECTRONIC AND COMMUNICATION ENGINEERING

**Total Credit Hours: 160.00**

## Level-1, Term-I

| Course Code                                          | Course Name                                     | Type of Course | Contact Hour | Credits      |
|------------------------------------------------------|-------------------------------------------------|----------------|--------------|--------------|
| EECE 101                                             | Electrical Circuits I                           | Theory         | 3.00         | 3.00         |
| PHY 101                                              | Waves & Oscillation, Optics and Modern Physics  | Theory         | 3.00         | 3.00         |
| MATH 101                                             | Differential and Integral Calculus              | Theory         | 3.00         | 3.00         |
| CHEM 101                                             | Fundamentals of Chemistry                       | Theory         | 3.00         | 3.00         |
| GEBS 101                                             | Bangladesh Studies                              | Theory         | 2.00         | 2.00         |
| <b>Subtotal (Theory)</b>                             |                                                 |                | <b>14.00</b> | <b>14.00</b> |
| EECE 102                                             | Electrical Circuits and Simulation Laboratory I | Sessional I    | 3.00         | 1.50         |
| PHY 102                                              | Physics Sessional                               | Sessional I    | 3.00         | 1.50         |
| CHEM 102                                             | Chemistry Sessional                             |                | 3.00         | 1.50         |
| <b>Subtotal (Sessional)</b>                          |                                                 |                | <b>9.00</b>  | <b>4.50</b>  |
| <b>Total = Contact hours: 23.00; Credits : 18.50</b> |                                                 |                |              |              |

## Level-1, Term-II

| Course Code                                         | Course Name                                                             | Type of Course | Contact Hour | Credits      |
|-----------------------------------------------------|-------------------------------------------------------------------------|----------------|--------------|--------------|
| EECE 105                                            | Electrical Circuits II                                                  | Theory         | 3.00         | 3.00         |
| PHY 103                                             | Electricity & Magnetism, Thermal Physics, Quantum Mechanics & Photonics | Theory         | 3.00         | 3.00         |
| MATH 105                                            | Vector analysis, Matrices and Coordinate Geometry                       | Theory         | 3.00         | 3.00         |
| CSE 109                                             | Computer Programming                                                    | Theory         | 3.00         | 3.00         |
| GES 101                                             | Fundamentals of Sociology                                               | Theory         | 2.00         | 2.00         |
| <b>Subtotal (Theory)</b>                            |                                                                         |                | <b>14.00</b> | <b>14.00</b> |
| EECE 106                                            | Electrical Circuits and Simulation Laboratory II                        | Sessional      | 3.00         | 1.50         |
| CSE 110                                             | Computer Programming Laboratory                                         | Sessional      | 3.00         | 1.50         |
| LANG 102                                            | Communicative English II                                                | Sessional      | 3.00         | 1.50         |
| <b>Subtotal (Sessional)</b>                         |                                                                         |                | <b>9.00</b>  | <b>4.50</b>  |
| <b>Total = Contact hours: 23.00; Credits: 18.50</b> |                                                                         |                |              |              |

## Level-2, Term-I

| Course Code                                         | Course Name                                                    | Type of Course | Contact Hour | Credits      |
|-----------------------------------------------------|----------------------------------------------------------------|----------------|--------------|--------------|
| EECE 201                                            | Electronics-I                                                  | Theory         | 3.00         | 3.00         |
| EECE 203                                            | Electrical Machines-I/ Energy Conversion-I                     | Theory         | 3.00         | 3.00         |
| ME 283                                              | Fundamental of Mechanical Engineering                          | Theory         | 3.00         | 3.00         |
| MATH 205                                            | Differential Equation, Laplace Transform and Fourier Transform | Theory         | 3.00         | 3.00         |
| GEE 201                                             | Fundamentals of Economics                                      | Theory         | 2.00         | 2.00         |
| <b>Subtotal (Theory)</b>                            |                                                                |                | <b>14.00</b> | <b>14.00</b> |
| EECE 202                                            | Electronics Circuit and Simulation Laboratory                  | Sessional      | 3.00         | 1.50         |
| EECE 212                                            | Numerical Technique Laboratory                                 | Sessional      | 3.00         | 1.50         |
| ME 284                                              | Fundamental of Mechanical Engineering Laboratory               | Sessional      | 3.00         | 1.50         |
| LANG 202                                            | Communicative English II                                       | Sessional      | 3.00         | 1.50         |
| <b>Subtotal (Sessional)</b>                         |                                                                |                | <b>12.00</b> | <b>6.00</b>  |
| <b>Total = Contact hours: 26.00; Credits: 20.00</b> |                                                                |                |              |              |

## Level-2, Term-II

| Course Code                                         | Course Name                                                  | Type of course | Contact hour | Credits      |
|-----------------------------------------------------|--------------------------------------------------------------|----------------|--------------|--------------|
| EECE 205                                            | Electrical Machines-II/ Energy Conversion-II                 | Theory         | 3.00         | 3.00         |
| EECE 207                                            | Electronics II                                               | Theory         | 3.00         | 3.00         |
| EECE 217                                            | Engineering Electromagnetic                                  | Theory         | 3.00         | 3.00         |
| MATH 213                                            | Complex Variable, Harmonic Function and Statistics           | Theory         | 3.00         | 3.00         |
| GELM 275                                            | Leadership and Management                                    | Theory         | 2.00         | 2.00         |
| <b>Subtotal (Theory)</b>                            |                                                              |                | <b>14.00</b> | <b>14.00</b> |
| EECE 206                                            | Electrical Machines Laboratory/ Energy Conversion Laboratory | Sessional      | 3.00         | 1.50         |
| EECE 208                                            | Electronics Circuit and Simulation Laboratory II             | Sessional      | 3.00         | 1.50         |
| EECE 222                                            | Electrical Service Design and CAD Laboratory                 | Sessional      | 4.00         | 2.00         |
| <b>Subtotal (Sessional)</b>                         |                                                              |                | <b>10.00</b> | <b>5.00</b>  |
| <b>Total = Contact hours: 24.00; Credits: 19.00</b> |                                                              |                |              |              |



### Level-3, Term-I

| Course Code                                            | Course Name                                             | Type of course | Contact Hour | Credits      |
|--------------------------------------------------------|---------------------------------------------------------|----------------|--------------|--------------|
| EECE 301                                               | Continuous Signals and Linear Systems                   | Theory         | 3.00         | 3.00         |
| EECE 303                                               | Digital Electronics                                     | Theory         | 3.00         | 3.00         |
| EECE 305                                               | Power System I                                          | Theory         | 3.00         | 3.00         |
| EECE 313                                               | Electrical Measurement, Instrumentation and Sensors     | Theory         | 3.00         | 3.00         |
| EECE 315                                               | Electrical Properties of Material                       | Theory         | 3.00         | 3.00         |
| GESL 305                                               | Environment, Sustainability and Law                     | Theory         | 2.00         | 2.00         |
| <b>Subtotal (Theory)</b>                               |                                                         |                | <b>17.00</b> | <b>17.00</b> |
| EECE 304                                               | Digital Electronics Laboratory                          | Sessional      | 3.00         | 1.50         |
| EECE 306                                               | Power System I Laboratory                               | Sessional      | 3.00         | 1.50         |
| EECE 314                                               | Electrical Measurement, Instrumentation and Sensors Lab | Sessional      | 3.00         | 1.50         |
| <b>Subtotal (Sessional)</b>                            |                                                         |                | <b>9.00</b>  | <b>4.50</b>  |
| <b>Total = Contact hours : 26.00 ; Credits : 21.50</b> |                                                         |                |              |              |

### Level-4, Term-I

| Course No                                             | Course Name                            | Type of Course | Contact hour | Credits      |
|-------------------------------------------------------|----------------------------------------|----------------|--------------|--------------|
| EECE 401                                              | Control System I                       | Theory         | 3.00         | 3.00         |
| EECE 405                                              | Solid State Devices                    | Theory         | 3.00         | 3.00         |
| EECE 473                                              | Power Electronics                      | Theory         | 3.00         | 3.00         |
| EECE 4**                                              | Elective I                             | Theory         | 3.00         | 3.00         |
| EECE 4**                                              | Elective II                            | Theory         | 3.00         | 3.00         |
| <b>Subtotal (Theory)</b>                              |                                        |                | <b>15.00</b> | <b>15.00</b> |
| EECE 400                                              | Final Year Design and Research Project |                | 6.00         | 3.00         |
| EECE 402                                              | Control System I Laboratory            | Sessional      | 3.00         | 1.05         |
| EECE 474                                              | Power Electronics Laboratory           | Sessional      | 3.00         | 1.50         |
| <b>Subtotal (Sessional)</b>                           |                                        |                | <b>12.00</b> | <b>6.00</b>  |
| <b>Total = Contact hours : 27.00; Credits : 21.00</b> |                                        |                |              |              |

### Level-3, Term-II

| Course Code                                          | Course Name                                | Type of course | Contact hour          | Credits      |
|------------------------------------------------------|--------------------------------------------|----------------|-----------------------|--------------|
| EECE 309                                             | Communication Theory I                     | Theory         | 3.00                  | 3.00         |
| EECE 311                                             | Digital Signal Processing I                | Theory         | 3.00                  | 3.00         |
| EECE 317                                             | VLSI I                                     | Theory         | 3.00                  | 3.00         |
| CSE 371                                              | Microprocessors and Interfacing            | Theory         | 3.00                  | 3.00         |
| <b>Subtotal (Theory)</b>                             |                                            |                | <b>12.00</b>          | <b>12.00</b> |
| GERM 352                                             | Fundamentals of Research Methodology       | Sessional      | 4.00                  | 2.00         |
| EECE 310                                             | Communication Theory I Laboratory          | Sessional      | 3.00                  | 1.50         |
| EECE 312                                             | Digital Signal Processing I Laboratory     | Sessional      | 3.00                  | 1.50         |
| EECE 318                                             | VLSI I Laboratory                          | Sessional      | 3.00                  | 1.50         |
| CSE 372                                              | Microprocessors and Interfacing Laboratory | Sessional      | 3.00                  | 1.00         |
| EECE 330                                             | Industrial Training                        | Sessional      | 1.00                  | 1.00         |
| <b>Subtotal (Sessional)</b>                          |                                            |                | <b>16+1 (6 weeks)</b> | <b>9.00</b>  |
| <b>Total = Contact hours : 29.00; Credits: 21.00</b> |                                            |                |                       |              |

### Level-4, Term-II

| Course No                                             | Course Name                             | Type of course | Contact hour | Credits      |
|-------------------------------------------------------|-----------------------------------------|----------------|--------------|--------------|
| EECE 409                                              | Communication Theory II                 | Theory         | 3.00         | 3.00         |
| GEEM 435                                              | Engineering Ethics and Moral Philosophy | Theory         | 2.00         | 2.00         |
| GEPM 465                                              | Project Management and Finance          | Theory         | 2.00         | 2.00         |
| EECE 4**                                              | Elective III                            | Theory         | 3.00         | 3.00         |
| EECE 4**                                              | Elective IV                             | Theory         | 3.00         | 3.00         |
| EECE 4**                                              | Elective V                              | Theory         | 3.00         | 3.00         |
| <b>Subtotal (Theory)</b>                              |                                         |                | <b>16.00</b> | <b>16.00</b> |
| EECE 400                                              | Final Year Design and Research Project  |                | 6.00         | 3.00         |
| EECE 4**                                              | Elective III Laboratory                 | Sessional      | 3.00         | 1.50         |
| <b>Subtotal (Sessional)</b>                           |                                         |                | <b>9.00</b>  | <b>4.50</b>  |
| <b>Total = Contact hours : 25.00 ; Credits: 20.50</b> |                                         |                |              |              |

## List of Elective Courses

### Power

| Ser. No. | Course Code | Course Name                                     | Level     | Contact Hour | Credits |
|----------|-------------|-------------------------------------------------|-----------|--------------|---------|
| 1        | EECE 471    | Power System II                                 | 4-I/ 4-II | 3.00         | 3.00    |
| 2        | EECE 475    | Power Plant Engineering                         | 4-I/ 4-II | 3.00         | 3.00    |
| 3        | EECE 477    | Power System Protection                         | 4-I/ 4-II | 3.00         | 3.00    |
| 4        | EECE 478    | Power System Protection Laboratory              | 4-II      | 3.00         | 1.50    |
| 5        | EECE 483    | High Voltage Engineering                        | 4-I/ 4-II | 3.00         | 3.00    |
| 6        | EECE 484    | High Voltage Engineering Laboratory             | 4-II      | 3.00         | 1.50    |
| 7        | EECE 479    | Power System Reliability                        | 4-I/ 4-II | 3.00         | 3.00    |
| 8        | EECE 481    | Power System Operation and Control              | 4-I/ 4-II | 3.00         | 3.00    |
| 9        | EECE 485    | Electrical Machines III / Energy Conversion III | 4-I/ 4-II | 3.00         | 3.00    |

### Electronics

| Ser. No. | Course Code | Course Name                                           | Level     | Contact Hour | Credits |
|----------|-------------|-------------------------------------------------------|-----------|--------------|---------|
| 1        | EECE 451    | Processing and Fabrication Technology                 | 4-I/ 4-II | 3.00         | 3.00    |
| 2        | EECE 453    | Analog Integrated Circuits                            | 4-I/ 4-II | 3.00         | 3.00    |
| 3        | EECE 455    | Compound Semiconductor or and Hetero-junction Devices | 4-I/ 4-II | 3.00         | 3.00    |
| 4        | EECE 457    | VLSI II                                               | 4-I/ 4-II | 3.00         | 3.00    |
| 5        | EECE 458    | VLSI II Laboratory                                    | 4-II      | 3.00         | 1.50    |
| 6        | EECE 459    | Optoelectronics                                       | 4-I/ 4-II | 3.00         | 3.00    |
| 7        | EECE 461    | Semiconductor Device Theory                           | 4-I/ 4-II | 3.00         | 3.00    |
| 8        | EECE 463    | Introduction to Nanotechnology                        | 4-I/ 4-II | 3.00         | 3.00    |
| 9        | EECE 465    | Semiconductor or and Nano-scale Devices               | 4-I/ 4-II | 3.00         | 3.00    |

### Communication

| Ser. No. | Course Code | Course Name                        | Level     | Contact Hour | Credits |
|----------|-------------|------------------------------------|-----------|--------------|---------|
| 1        | EECE 403    | Telecommunication Engineering      | 4-I/ 4-II | 3.00         | 3.00    |
| 2        | EECE 433    | Microwave Engineering              | 4-I/ 4-II | 3.00         | 3.00    |
| 3        | EECE 434    | Microwave Engineering Laboratory   | 4-II      | 3.00         | 1.50    |
| 4        | EECE 435    | Optical Fiber Communication        | 4-I/ 4-II | 3.00         | 3.00    |
| 5        | EECE 437    | Digital Communication              | 4-I/ 4-II | 3.00         | 3.00    |
| 6        | EECE 438    | Digital Communication Laboratory   | 4-II      | 3.00         | 1.50    |
| 7        | EECE 439    | Mobile Cellular Communication      | 4-I/ 4-II | 3.00         | 3.00    |
| 8        | EECE 441    | Random Signals and Processes       | 4-I/ 4-II | 3.00         | 3.00    |
| 9        | EECE 443    | Satellite Communication            | 4-I/ 4-II | 3.00         | 3.00    |
| 10       | EECE 444    | Satellite Communication Laboratory | 4-II      | 3.00         | 1.50    |
| 11       | EECE 445    | Communications Network             | 4-I/ 4-II | 3.00         | 3.00    |
| 12       | EECE 446    | Communications Network Laboratory  | 4-II      | 3.00         | 1.50    |

### Interdisciplinary

| Ser. No. | Course Number | Course Name                                 | Level     | Contact Hour | Credits |
|----------|---------------|---------------------------------------------|-----------|--------------|---------|
| 1        | EECE 421      | Control System II                           | 4-I/ 4-II | 3.00         | 3.00    |
| 2        | EECE 422      | Control System II Laboratory                | 4-II      | 3.00         | 1.50    |
| 3        | EECE 423      | Numerical Methods                           | 4-I/ 4-II | 3.00         | 3.00    |
| 4        | EECE 424      | Numerical Methods Laboratory                | 4-II      | 3.00         | 1.50    |
| 5        | EECE 425      | Biomedical Instrumentation                  | 4-I/ 4-II | 3.00         | 3.00    |
| 6        | EECE 426      | Biomedical Instrumentation Laboratory       | 4-II      | 3.00         | 1.50    |
| 7        | EECE 429      | Radar Engineering                           | 4-I/ 4-II | 3.00         | 3.00    |
| 8        | EECE 430      | Radar Engineering Laboratory                | 4-II      | 3.00         | 1.50    |
| 9        | EECE 491      | Sonar and Underwater Engineering            | 4-I/ 4-II | 3.00         | 3.00    |
| 10       | EECE 492      | Sonar and Underwater Engineering Laboratory | 4-II      | 3.00         | 1.50    |
| 11       | EECE 493      | Electronics Warfare                         | 4-I/ 4-II | 3.00         | 3.00    |
| 12       | EECE 494      | Electronics Warfare Laboratory              | 4-II      | 3.00         | 1.50    |
| 13       | EECE 495      | Avionics Engineering                        | 4-I/ 4-II | 3.00         | 3.00    |
| 14       | EECE 496      | Avionics Engineering Laboratory             | 4-II      | 3.00         | 1.50    |
| 15       | EECE 497      | Biomedical Signal Processing                | 4-I/ 4-II | 3.00         | 3.00    |
| 16       | EECE 498      | Biomedical Signal Processing Laboratory     | 4-II      | 3.00         | 1.50    |
| 17       | CSE 491       | Microprocessor System Design                | 4-I/ 4-II | 3.00         | 3.00    |
| 18       | CSE 492       | Microprocessor System Design Laboratory     | 4-II      | 3.00         | 1.50    |



# FACULTY OF MECHANICAL ENGINEERING

## DEPT OF MECHANICAL ENGINEERING

Total Credit Hours: 160.00

### Level- 1, Term-I

| Course Code                                         | Course Name                                       | Type of Course | Contact hours | Credits      |
|-----------------------------------------------------|---------------------------------------------------|----------------|---------------|--------------|
| ME 161                                              | Introduction to Mechanical Engineering            | Theory         | 2.00          | 2.00         |
| ME 103                                              | Thermodynamics                                    | Theory         | 3.00          | 3.00         |
| EECE 159                                            | Fundamentals of Electrical Engineering            | Theory         | 3.00          | 3.00         |
| PHY 101                                             | Waves and Oscillations, Optics and Modern Physics | Theory         | 3.00          | 3.00         |
| MATH 101                                            | Differential and Integral Calculus                | Theory         | 3.00          | 3.00         |
| GEBS 101                                            | Bangladesh Studies                                | Theory         | 2.00          | 2.00         |
| <b>Subtotal (Theory)</b>                            |                                                   |                | <b>16.00</b>  | <b>16.00</b> |
| PHY 102                                             | Physics Sessional                                 | Sessional      | 3.00          | 1.50         |
| ME 104                                              | Thermodynamics Sessional                          | Sessional      | 3.00          | 1.50         |
| SHOP 162                                            | Workshop Practice Sessional                       | Sessional      | 3.00          | 1.50         |
| <b>Subtotal (Sessional)</b>                         |                                                   |                | <b>9.00</b>   | <b>4.50</b>  |
| <b>Total = Contact hours: 25.00; Credits: 20.50</b> |                                                   |                |               |              |

### Level- 1, Term-II

| Course Code                                         | Course Name                                     | Type of Course | Contact hours | Credits      |
|-----------------------------------------------------|-------------------------------------------------|----------------|---------------|--------------|
| ME 193                                              | Engineering Materials                           | Theory         | 3.00          | 3.00         |
| CHEM 101                                            | Fundamentals of Chemistry                       | Theory         | 3.00          | 3.00         |
| MATH 103                                            | Differential Equations and Matrix               | Theory         | 3.00          | 3.00         |
| EECE 161                                            | Electrical and Electronics Technology           | Theory         | 3.00          | 3.00         |
| <b>Subtotal (Theory)</b>                            |                                                 |                | <b>12.00</b>  | <b>12.00</b> |
| CHEM 102                                            | Chemistry Sessional                             | Sessional      | 3.00          | 1.50         |
| LANG 102                                            | Communicative English I                         | Sessional      | 3.00          | 1.50         |
| ME 194                                              | Engineering Materials Sessional                 | Sessional      | 3.00          | 1.50         |
| EECE 162                                            | Electrical and Electronics Technology Sessional | Sessional      | 3.00          | 1.50         |
| <b>Subtotal (Sessional)</b>                         |                                                 |                | <b>12.00</b>  | <b>6.00</b>  |
| <b>Total = Contact hours: 24.00; Credits: 18.00</b> |                                                 |                |               |              |

### Level- 2, Term-I

| Course Code                                         | Course Name                                               | Type of Course | Contact hours | Credits      |
|-----------------------------------------------------|-----------------------------------------------------------|----------------|---------------|--------------|
| CSE 275                                             | Computer Programming Language                             | Theory         | 3.00          | 3.00         |
| ME 245                                              | Engineering Mechanics-I                                   | Theory         | 3.00          | 3.00         |
| MATH 201                                            | Vector Analysis, Laplace Transform & Co-ordinate Geometry | Theory         | 3.00          | 3.00         |
| ME 205                                              | Heat and Mass Transfer                                    | Theory         | 3.00          | 3.00         |
| <b>Subtotal (Theory)</b>                            |                                                           |                | <b>12.00</b>  | <b>12.00</b> |
| CSE 276                                             | Computer Programming Language Sessional                   | Sessional      | 3.00          | 1.50         |
| ME 258                                              | Mechanical Engineering Drawing -I                         | Sessional      | 3.00          | 1.50         |
| ME 206                                              | Heat and Mass Transfer Sessional                          | Sessional      | 3.00          | 1.50         |
| LANG 202                                            | Communicative English II                                  | Sessional      | 3.00          | 1.50         |
| <b>Subtotal (Sessional)</b>                         |                                                           |                | <b>12.00</b>  | <b>6.00</b>  |
| <b>Total = Contact hours: 24.00; Credits: 18.00</b> |                                                           |                |               |              |

### Level- 2, Term-II

| Course Code                                         | Course Name                                              | Type of Course | Contact hours | Credits      |
|-----------------------------------------------------|----------------------------------------------------------|----------------|---------------|--------------|
| ME 247                                              | Engineering Mechanics - II                               | Theory         | 3.00          | 3.00         |
| ME 233                                              | Manufacturing Technology                                 | Theory         | 3.00          | 3.00         |
| ME 207                                              | Heat Transfer Equipment Design                           | Theory         | 3.00          | 3.00         |
| ME 263                                              | Numerical Analysis                                       | Theory         | 3.00          | 3.00         |
| MATH 265                                            | Complex Variable, Harmonic Function and Fourier Analysis | Theory         | 3.00          | 3.00         |
| GELM 275                                            | Leadership and Management                                | Theory         | 2.00          | 2.00         |
| <b>Subtotal (Theory)</b>                            |                                                          |                | <b>17.00</b>  | <b>17.00</b> |
| ME 234                                              | Manufacturing Technology Sessional                       | Sessional      | 3.00          | 1.50         |
| ME 264                                              | Numerical Analysis Sessional                             | Sessional      | 3.00          | 1.50         |
| ME 260                                              | Mechanical Engineering Drawing -II                       | Sessional      | 3.00          | 1.50         |
| <b>Subtotal (Sessional)</b>                         |                                                          |                | <b>9.00</b>   | <b>4.50</b>  |
| <b>Total = Contact hours: 26.00; Credits: 21.50</b> |                                                          |                |               |              |

### Level- 3, Term-I

| Course Code                                         | Course Name                          | Type of Course | Contact hours | Credits      |
|-----------------------------------------------------|--------------------------------------|----------------|---------------|--------------|
| ME 361                                              | Instrumentation and Measurement      | Theory         | 2.00          | 2.00         |
| ME 343                                              | Mechanics of Solids                  | Theory         | 3.00          | 3.00         |
| ME 375                                              | Control Engineering                  | Theory         | 2.00          | 2.00         |
| ME 303                                              | Power plant Engineering              | Theory         | 3.00          | 3.00         |
| ME 321                                              | Fluid Mechanics-I                    | Theory         | 3.00          | 3.00         |
| GEE 305                                             | Fundamentals of Economics            | Theory         | 2.00          | 2.00         |
| <b>Subtotal (Theory)</b>                            |                                      |                | <b>15.00</b>  | <b>15.00</b> |
| ME 344                                              | Mechanics of Solids Sessional        | Sessional      | 3.00          | 1.50         |
| ME 376                                              | Control Engineering Sessional        | Sessional      | 3.00          | 1.50         |
| ME 304                                              | Power plant Engineering Sessional    | Sessional      | 3.00          | 1.50         |
| GERM 352                                            | Fundamentals of Research Methodology | Sessional      | 4.00          | 2.00         |
| <b>Subtotal (Sessional)</b>                         |                                      |                | <b>13.00</b>  | <b>6.50</b>  |
| <b>Total = Contact hours: 28.00; Credits: 21.50</b> |                                      |                |               |              |

### Level- 3, Term-II

| Course Code                                                   | Course Name                      | Type of Course | Contact hours          | Credits      |
|---------------------------------------------------------------|----------------------------------|----------------|------------------------|--------------|
| GES 307                                                       | Fundamentals of Sociology        | Theory         | 2.00                   | 2.00         |
| ME 345                                                        | Mechanics of Machinery           | Theory         | 3.00                   | 3.00         |
| ME 323                                                        | Fluid Mechanics-II               | Theory         | 2.00                   | 2.00         |
| ME 341                                                        | Machine Design                   | Theory         | 3.00                   | 3.00         |
| ME 367                                                        | Automobile Engineering           | Theory         | 3.00                   | 3.00         |
| <b>Subtotal (Theory)</b>                                      |                                  |                | <b>13.00</b>           | <b>13.00</b> |
| ME 324                                                        | Fluid Mechanics Sessional        | Sessional      | 3.00                   | 1.50         |
| ME 346                                                        | Mechanics of Machinery Sessional | Sessional      | 3.00                   | 1.50         |
| ME 368                                                        | Automobile Engineering Sessional | Sessional      | 3.00                   | 1.50         |
| ME 366                                                        | Engineering Simulation           | Sessional      | 2.00                   | 1.00         |
| ME 372*                                                       | Industrial Training              | Training       | 4 weeks                | 1.00         |
| <b>Subtotal (Sessional)</b>                                   |                                  |                | <b>11 Hr + 4 weeks</b> | <b>6.50</b>  |
| <b>Total = Contact hours: 24.00 + 4 weeks; Credits: 19.50</b> |                                  |                |                        |              |

### Level- 4, Term-I

| Course Code                                         | Course Name                                | Type of Course | Contact hours | Credits      |
|-----------------------------------------------------|--------------------------------------------|----------------|---------------|--------------|
| GEPM 467                                            | Project Management & Finance               | Theory         | 2.00          | 2.00         |
| ME 421                                              | Fluid Machinery                            | Theory         | 3.00          | 3.00         |
| ME 401                                              | IC Engine                                  | Theory         | 3.00          | 3.00         |
| ME 405                                              | Heating, Ventilation and Air conditioning  | Theory         | 3.00          | 3.00         |
| Optional I <sup>1</sup>                             | Selected from prescribed optional subjects | Theory         | 3.00          | 3.00         |
| Optional II <sup>1</sup>                            | Selected from prescribed optional subjects | Theory         | 3.00          | 3.00         |
| <b>Subtotal (Theory)</b>                            |                                            |                | <b>17.00</b>  | <b>17.00</b> |
| ME 402                                              | IC Engine Sessional                        | Sessional      | 3.00          | 1.50         |
| ME 400                                              | Final Year Design and Research Project - I | Sessional      | 6.00          | 3.00         |
| <b>Subtotal (Sessional)</b>                         |                                            |                | <b>9.00</b>   | <b>4.50</b>  |
| <b>Total = Contact hours: 26.00; Credits: 21.50</b> |                                            |                |               |              |

### Level- 4, Term-II

| Course Code                                         | Course Name                                 | Type of Course | Contact hours | Credits      |
|-----------------------------------------------------|---------------------------------------------|----------------|---------------|--------------|
| ME 445                                              | Noise and vibration                         | Theory         | 3.00          | 3.00         |
| GESL 407                                            | Environment, Sustainability and Law         | Theory         | 2.00          | 2.00         |
| GEEM 437                                            | Engineering Ethics & Moral Philosophy       | Theory         | 2.00          | 2.00         |
| IPE 463                                             | CAD/CAM                                     | Theory         | 2.00          | 2.00         |
| Optional III <sup>2</sup>                           | Selected from prescribed optional subjects  | Theory         | 3.00          | 3.00         |
| Optional IV <sup>2</sup>                            | Selected from prescribed optional subjects  | Theory         | 3.00          | 3.00         |
| <b>Subtotal (Theory)</b>                            |                                             |                | <b>15.00</b>  | <b>15.00</b> |
| IPE 464                                             | CAD/CAM Simulation sessional                | Sessional      | 3.00          | 1.50         |
| ME 400                                              | Final Year Design and Research Project - II | Sessional      | 6.00          | 3.00         |
| <b>Subtotal (Sessional)</b>                         |                                             |                | <b>9.00</b>   | <b>4.50</b>  |
| <b>Total = Contact hours: 24.00; Credits: 19.50</b> |                                             |                |               |              |



## List of Elective Courses

| Course No | Course Name                                      | Level-Term  | Contact Hours | Credit Hours |
|-----------|--------------------------------------------------|-------------|---------------|--------------|
| ME 407    | Advanced Thermodynamics                          | 4-I or 4-II | 3.00          | 3.00         |
| ME 409    | Renewable Energy                                 | 4-I or 4-II | 3.00          | 3.00         |
| ME 411    | Combustion and Pollution                         | 4-I or 4-II | 3.00          | 3.00         |
| ME 413    | Energy and Environment                           | 4-I or 4-II | 3.00          | 3.00         |
| ME 415    | Advanced Programming with MATLAB                 | 4-I or 4-II | 3.00          | 3.00         |
| ME 417    | Multiphase Flows                                 | 4-I or 4-II | 3.00          | 3.00         |
| ME 419    | Introduction to Nanomaterials and Nanotechnology | 4-I or 4-II | 3.00          | 3.00         |
| ME 423    | Fluid Engineering                                | 4-I or 4-II | 3.00          | 3.00         |
| ME 425    | Aerodynamics                                     | 4-I or 4-II | 3.00          | 3.00         |
| ME 427    | Applied Engineering Mathematics                  | 4-I or 4-II | 3.00          | 3.00         |
| ME 429    | Gas Dynamics                                     | 4-I or 4-II | 3.00          | 3.00         |
| ME 431    | Finite Element Method                            | 4-I or 4-II | 3.00          | 3.00         |
| ME 433    | Fluid Power and Control                          | 4-I or 4-II | 3.00          | 3.00         |
| ME 435    | Introduction to CFD                              | 4-I or 4-II | 3.00          | 3.00         |
| ME 437    | Design of Fluid Machines                         | 4-I or 4-II | 3.00          | 3.00         |
| ME 439    | Bio-Fluid Mechanics                              | 4-I or 4-II | 3.00          | 3.00         |
| ME 441    | Theory of Structures                             | 4-I or 4-II | 3.00          | 3.00         |
| ME 447    | Robotics                                         | 4-I or 4-II | 3.00          | 3.00         |
| ME 449    | Composite Materials                              | 4-I or 4-II | 3.00          | 3.00         |
| ME 451    | Aircraft & Aero-engine Structure                 | 4-I or 4-II | 3.00          | 3.00         |
| ME 453    | Applied Aerodynamics                             | 4-I or 4-II | 3.00          | 3.00         |
| ME 455    | Fire Safety and Engineering                      | 4-I or 4-II | 3.00          | 3.00         |
| ME 459    | Preventive Maintenance                           | 4-I or 4-II | 3.00          | 3.00         |
| ME 463    | Petroleum Engineering                            | 4-I or 4-II | 3.00          | 3.00         |
| ME 465    | Automotive Chassis Engineering                   | 4-I or 4-II | 3.00          | 3.00         |
| ME 467    | Autotronics                                      | 4-I or 4-II | 3.00          | 3.00         |
| ME 469    | Vehicle Dynamics                                 | 4-I or 4-II | 3.00          | 3.00         |
| ME 471    | Bio-Engineering                                  | 4-I or 4-II | 3.00          | 3.00         |
| ME 473    | Plastic Process Technology                       | 4-I or 4-II | 3.00          | 3.00         |
| ME 475    | Modern Manufacturing Technology                  | 4-I or 4-II | 3.00          | 3.00         |
| ME 477    | Metal Cutting Processes                          | 4-I or 4-II | 3.00          | 3.00         |
| ME 479    | Occupational Health and safety engineering       | 4-I or 4-II | 3.00          | 3.00         |
| ME 483    | Standards and inspection                         | 4-I or 4-II | 3.00          | 3.00         |
| ME 485    | Introduction to Nuclear Engineering              | 4-I or 4-II | 3.00          | 3.00         |
| ME 487    | Tools Engineering                                | 4-I or 4-II | 3.00          | 3.00         |
| ME 489    | Automobile Maintenance Engineering               | 4-I or 4-II | 3.00          | 3.00         |
| ME 491    | Mems Devices - Design and Fabrication            | 4-I or 4-II | 3.00          | 3.00         |
| ME 493    | Material Handling                                | 4-I or 4-II | 3.00          | 3.00         |
| ME 495    | Mechatronics                                     | 4-I or 4-II | 3.00          | 3.00         |
| ME 497    | Textile Technology                               | 4-I or 4-II | 3.00          | 3.00         |
| ME 499    | Weapon Engineering                               | 4-I or 4-II | 3.00          | 3.00         |

## Science and Hum

| Ser | Subject Code | Subject Name                                              | Level and Term | Course Type |
|-----|--------------|-----------------------------------------------------------|----------------|-------------|
| 1   | PHY 101      | Waves and Oscillations, Optics and Modern Physics         | Level 1 Term 1 | Theory      |
| 2   | MATH 101     | Differential and Integral Calculus                        |                |             |
| 3   | GEBS 101     | Bangladesh Studies                                        |                |             |
| 4   | PHY 102      | Physics Sessional                                         |                | Sessional   |
| 5   | CHEM 101     | Fundamentals of Chemistry                                 | Level 1 Term 2 | Theory      |
| 6   | MATH 103     | Differential Equations and Matrix                         |                |             |
| 7   | CHEM 102     | Chemistry Sessional                                       |                |             |
| 8   | LANG102      | Communicative English I                                   |                | Sessional   |
| 9   | MATH 201     | Vector Analysis, Laplace Transform & Co-ordinate Geometry | Level 2 Term 1 | Theory      |
| 10  | LANG202      | Communicative English II                                  |                | Sessional   |
| 11  | GELM 275     | Leadership and Management                                 | Level 2 Term 2 | Theory      |
| 12  | GEE 305      | Fundamentals of Economics                                 | Level 3 Term 1 | Theory      |
| 13  | GERM 352     | Fundamentals of Research Methodology                      |                | Sessional   |
| 14  | GES 307      | Fundamentals of Sociology                                 | Level 3 Term 2 | Theory      |
| 15  | GEPM 467     | Project Management & Finance                              | Level 4 Term 1 | Theory      |

# AERONAUTICAL ENGINEERING

**Total Credit Hours: Aerospace 160.00 & Avionics 160.00**

## Level- 1, Term-I (Aerospace & Avionics)

| Course Code                                         | Course Name                                       | Type of Course | Contact Hour | Credits      |
|-----------------------------------------------------|---------------------------------------------------|----------------|--------------|--------------|
| PHY 101                                             | Waves and Oscillations, Optics and Modern Physics | Theory         | 3.00         | 3.00         |
| EECE 161                                            | Electrical Circuit Analysis-I                     | Theory         | 3.00         | 3.00         |
| MATH 101                                            | Differential and Integral Calculus                | Theory         | 3.00         | 3.00         |
| AEAS 103                                            | Fundamentals of Aeronautical Engineering          | Theory         | 3.00         | 3.00         |
| GEBS 101                                            | Bangladesh Studies                                | Theory         | 2.00         | 2.00         |
| <b>Subtotal (Theory)</b>                            |                                                   |                | <b>14.00</b> | <b>14.00</b> |
| PHY 102                                             | Physics Sessional                                 | Sessional      | 3.00         | 1.50         |
| EECE 162                                            | Electrical Circuit Analysis-I Sessional           | Sessional      | 3.00         | 1.50         |
| SHOP 108                                            | Workshop Technology Sessional-I                   | Sessional      | 1.50         | 0.75         |
| AEAS 110                                            | Aeronautical Engineering Drawing-I                | Sessional      | 3.00         | 1.50         |
| <b>Subtotal (Sessional)</b>                         |                                                   |                | <b>10.50</b> | <b>5.25</b>  |
| <b>Total = Contact hours: 24.50; Credits: 19.25</b> |                                                   |                |              |              |

## Level- 1, Term-II (Aerospace and Avionics)

| Course Code                                         | Course Name                                              | Type of Course | Contact Hour | Credits      |
|-----------------------------------------------------|----------------------------------------------------------|----------------|--------------|--------------|
| PHY 111                                             | Electricity and Magnetism, Thermal Physics and Mechanics | Theory         | 3.00         | 3.00         |
| CHEM 101                                            | Fundamentals of Chemistry                                | Theory         | 3.00         | 3.00         |
| MATH 103                                            | Differential Equations and Matrix                        | Theory         | 3.00         | 3.00         |
| CSE 173                                             | Computer Programming and Application                     | Theory         | 3.00         | 3.00         |
| GEA 101                                             | Principles of Accounting                                 | Theory         | 2.00         | 2.00         |
| GES 101                                             | Fundamentals of Sociology                                | Theory         | 2.00         | 2.00         |
| <b>Subtotal (Theory)</b>                            |                                                          |                | <b>16.00</b> | <b>16.00</b> |
| CHEM 102                                            | Chemistry Sessional                                      | Sessional      | 3.00         | 1.50         |
| LANG 102                                            | Communicative English-I                                  | Sessional      | 3.00         | 1.50         |
| CSE 174                                             | Computer Programming and Application Sessional           | Sessional      | 3.00         | 1.50         |
| SHOP 112                                            | Workshop Technology Sessional-II                         | Sessional      | 1.50         | 0.75         |
| <b>Subtotal (Sessional)</b>                         |                                                          |                | <b>10.50</b> | <b>5.25</b>  |
| <b>Total = Contact hours: 26.50; Credits: 21.25</b> |                                                          |                |              |              |

## Level- 2, Term-I (Aerospace)

| Course Code                                        | Course Name                                                 | Type of Course | Contact Hour | Credits      |
|----------------------------------------------------|-------------------------------------------------------------|----------------|--------------|--------------|
| ME 249                                             | Engineering Mechanics (Statics and Dynamics)                | Theory         | 4.00         | 4.00         |
| AEAV 205                                           | Numerical Analysis and Application                          | Theory         | 3.00         | 3.00         |
| AEAV 203                                           | Electronics-I                                               | Theory         | 3.00         | 3.00         |
| MATH 201                                           | Vector Analysis, Laplace Transform and Co-ordinate Geometry | Theory         | 3.00         | 3.00         |
| GEE 201                                            | Fundamentals of Economics                                   | Theory         | 2.00         | 2.00         |
| <b>Subtotal (Theory)</b>                           |                                                             |                | <b>15.00</b> | <b>15.00</b> |
| AEAV 206                                           | Numerical Analysis and Application Sessional                | Sessional      | 3.00         | 1.50         |
| AEAV 204                                           | Electronics-I Sessional                                     | Sessional      | 1.50         | 0.75         |
| LANG 202                                           | Communicative English-II                                    | Sessional      | 3.00         | 1.50         |
| <b>Subtotal (Sessional)</b>                        |                                                             |                | <b>7.50</b>  | <b>3.75</b>  |
| <b>Total = Contact hours: 22.50 Credits: 18.75</b> |                                                             |                |              |              |

## Level- 2, Term-I (Avionics)

| Course Code                                         | Course Name                                                | Type of Course | Contact Hour | Credits      |
|-----------------------------------------------------|------------------------------------------------------------|----------------|--------------|--------------|
| AEAV 203                                            | Electronics-I                                              | Theory         | 3.00         | 3.00         |
| AEAV 201                                            | Electrical Circuit Analysis- II                            | Theory         | 3.00         | 3.00         |
| AEAV 205                                            | Numerical Analysis and Applications                        | Theory         | 3.00         | 3.00         |
| ME 249                                              | Engineering Mechanics (Statics and Dynamics)               | Theory         | 4.00         | 4.00         |
| MATH 201                                            | Vector Analysis, Laplace Transform and Coordinate Geometry | Theory         | 3.00         | 3.00         |
| GEE 201                                             | Fundamentals of Economics                                  | Theory         | 2.00         | 2.00         |
| <b>Subtotal (Theory)</b>                            |                                                            |                | <b>18.00</b> | <b>18.00</b> |
| AEAV 202                                            | Electrical Circuit Analysis- II Sessional                  | Sessional      | 3.00         | 1.50         |
| AEAV 226                                            | Numerical Analysis and Applications Sessional              | Sessional      | 1.50         | 0.75         |
| LANG 202                                            | Communicative English-II                                   | Sessional      | 3.00         | 1.50         |
| <b>Subtotal (Sessional)</b>                         |                                                            |                | <b>7.50</b>  | <b>3.75</b>  |
| <b>Total = Contact hours: 25.50; Credits: 21.75</b> |                                                            |                |              |              |



## Level- 2, Term-II (Aerospace)

| Course Code                                         | Course Name                                       | Type of Course | Contact Hour | Credits      |
|-----------------------------------------------------|---------------------------------------------------|----------------|--------------|--------------|
| AEAS 203                                            | Fundamentals of Fluid Mechanics                   | Theory         | 3.00         | 3.00         |
| AEAS 205                                            | Mechanics of Solids                               | Theory         | 3.00         | 3.00         |
| AEAS 207                                            | Thermodynamics                                    | Theory         | 3.00         | 3.00         |
| AEAS 215                                            | Aircraft Aerospace Systems                        | Theory         | 3.00         | 3.00         |
| GELM 275                                            | Leadership and Management                         | Theory         | 2.00         | 2.00         |
| MATH 217                                            | Complex Variable, Fourier Analysis and Statistics | Theory         | 4.00         | 4.00         |
| <b>Subtotal (Theory)</b>                            |                                                   |                | <b>18.00</b> | <b>18.00</b> |
| AEAS 206                                            | Mechanics of Solids Sessional                     | Sessional      | 3.00         | 1.50         |
| AEAS 204                                            | Fundamentals of Fluid Mechanics Sessional         | Sessional      | 1.50         | 0.75         |
| AEAS 208                                            | Thermodynamics Sessional                          | Sessional      | 1.50         | 0.75         |
| AEAS 210                                            | Aeronautical Engineering Drawing-II               | Sessional      | 3.00         | 1.50         |
| <b>Subtotal (Sessional)</b>                         |                                                   |                | <b>9.00</b>  | <b>4.50</b>  |
| <b>Total = Contact hours: 27.00; Credits: 22.50</b> |                                                   |                |              |              |

## Level- 2, Term-II (Avionics)

| Course Code                                         | Course Name                                       | Type of Course | Contact Hour | Credits      |
|-----------------------------------------------------|---------------------------------------------------|----------------|--------------|--------------|
| AEAV 215                                            | Electronics-II                                    | Theory         | 3.00         | 3.00         |
| AEAV 217                                            | Aircraft Electrical System                        | Theory         | 3.00         | 3.00         |
| AEAS 203                                            | Fundamentals of Fluid Mechanics                   | Theory         | 3.00         | 3.00         |
| AEAS 207                                            | Thermodynamics                                    | Theory         | 3.00         | 3.00         |
| GELM 275                                            | Leadership and Management                         | Theory         | 2.00         | 2.00         |
| MATH 217                                            | Complex Variable, Fourier Analysis and Statistics | Theory         | 4.00         | 4.00         |
| <b>Subtotal (Theory)</b>                            |                                                   |                | <b>18.00</b> | <b>18.00</b> |
| AEAV 216                                            | Electronics-II Sessional                          | Sessional      | 3.00         | 1.50         |
| AEAV 218                                            | Aircraft Electrical System Sessional              | Sessional      | 1.50         | 0.75         |
| AEAS 208                                            | Thermodynamics Sessional                          | Sessional      | 1.50         | 0.75         |
| AEAS 210                                            | Aeronautical Engineering Drawing-II               | Sessional      | 3.00         | 1.50         |
| <b>Subtotal (Sessional)</b>                         |                                                   |                | <b>9.00</b>  | <b>4.50</b>  |
| <b>Total = Contact hours: 27.00; Credits: 22.50</b> |                                                   |                |              |              |

## Level- 3, Term-I (Aerospace)

| Course Code                                         | Course Name                                      | Type of Course | Contact Hour | Credits      |
|-----------------------------------------------------|--------------------------------------------------|----------------|--------------|--------------|
| AEAS 301                                            | Heat Transfer                                    | Theory         | 3.00         | 3.00         |
| AEAS 335                                            | Applied Aerodynamics                             | Theory         | 3.00         | 3.00         |
| AEAS 3XX                                            | Elective I                                       | Theory         | 3.00         | 3.00         |
| AEAS 307                                            | Aircraft Loading & Structure Analysis            | Theory         | 3.00         | 3.00         |
| AEAS 331                                            | Material Science & Aerospace Materials           | Theory         | 3.00         | 3.00         |
| GEEM 339                                            | Engineering Ethics and Moral Philosophy          | Theory         | 2.00         | 2.00         |
| <b>Subtotal (Theory)</b>                            |                                                  |                | <b>17.00</b> | <b>17.00</b> |
| AEAS 336                                            | Applied Aerodynamics Sessional                   | Sessional      | 1.50         | 0.75         |
| AEAS 338                                            | Aerospace Propulsion Sessional                   | Sessional      | 1.50         | 0.75         |
| AEAS 322                                            | Heat Transfer Sessional                          | Sessional      | 3.00         | 1.50         |
| AEAS 332                                            | Material Science & Aerospace Materials Sessional | Sessional      | 1.50         | 0.75         |
| <b>Subtotal (Sessional)</b>                         |                                                  |                | <b>7.50</b>  | <b>3.75</b>  |
| <b>Total = Contact hours: 24.50; Credits: 20.75</b> |                                                  |                |              |              |

## Level- 3, Term-I (Avionics)

| Course Code                                         | Course Name                             | Type of Course | Contact Hour | Credits      |
|-----------------------------------------------------|-----------------------------------------|----------------|--------------|--------------|
| AEAV 301                                            | Digital Systems                         | Theory         | 3.00         | 3.00         |
| AEAV 303                                            | Signals and Systems                     | Theory         | 3.00         | 3.00         |
| AEAS 3XX                                            | Elective I                              | Theory         | 3.00         | 3.00         |
| AEAV 309                                            | Aircraft Avionics Systems               | Theory         | 3.00         | 3.00         |
| AEAS 335                                            | Applied Aerodynamics                    | Theory         | 3.00         | 3.00         |
| GEEM 339                                            | Engineering Ethics and Moral Philosophy | Theory         | 2.00         | 2.00         |
| <b>Subtotal (Theory)</b>                            |                                         |                | <b>17.00</b> | <b>17.00</b> |
| AEAV 302                                            | Digital Systems Sessional               | Sessional      | 3.00         | 1.5          |
| AEAS 338                                            | Aerospace Propulsion Sessional          | Sessional      | 1.50         | 0.75         |
| AEAS 336                                            | Applied Aerodynamics Sessional          | Sessional      | 1.50         | 0.75         |
| <b>Subtotal (Sessional)</b>                         |                                         |                | <b>6.00</b>  | <b>3.00</b>  |
| <b>Total = Contact hours: 23.00; Credits: 20.00</b> |                                         |                |              |              |

### Level- 3, Term-II (Aerospace)

| Course Code                                                 | Course Name                                                       | Type of Course | Contact Hour     | Credits      |
|-------------------------------------------------------------|-------------------------------------------------------------------|----------------|------------------|--------------|
| AEAS 315                                                    | Aircraft Stability and Control                                    | Theory         | 3.00             | 3.00         |
| AEAS 317                                                    | Mechanics of Structures, Structural Vibration and Aero Elasticity | Theory         | 4.00             | 4.00         |
| AEAS 319                                                    | Machine Design                                                    | Theory         | 3.00             | 3.00         |
| AEAV 3XX                                                    | Elective II                                                       | Theory         | 3.00             | 3.00         |
| AEAS 325                                                    | Computational Fluid Dynamics                                      | Theory         | 3.00             | 3.00         |
| <b>Subtotal (Theory)</b>                                    |                                                                   |                | <b>16.00</b>     | <b>16.00</b> |
| AE 300                                                      | Industrial Training                                               | Sessional      | 8 weeks          | 1.00         |
| AEAV 330                                                    | Measurement and Aircraft Instruments Sessional                    | Sessional      | 1.50             | 0.75         |
| AEAS 326                                                    | Computational Fluid Dynamics Sessional                            | Sessional      | 1.50             | 0.75         |
| GERM 352                                                    | Fundamentals of Research Methodology                              | Sessional      | 4.00             | 2.00         |
| <b>Subtotal (Sessional)</b>                                 |                                                                   |                | <b>7+8 weeks</b> | <b>4.50</b>  |
| <b>Total = Contact hours: 23.00+8 weeks; Credits: 20.50</b> |                                                                   |                |                  |              |

### Level- 3, Term-II (Avionics)

| Course Code                                                 | Course Name                                    | Type of Course | Contact Hour        | Credits      |
|-------------------------------------------------------------|------------------------------------------------|----------------|---------------------|--------------|
| AEAV 305                                                    | Communication Engineering                      | Theory         | 3.00                | 3.00         |
| AEAV 307                                                    | Electro-Magnetic Field Theory                  | Theory         | 3.00                | 3.00         |
| AEAV 313                                                    | Digital Signal Processing                      | Theory         | 3.00                | 3.00         |
| AEAV 3XX                                                    | Elective II                                    | Theory         | 3.00                | 3.00         |
| AEAS 315                                                    | Aircraft Stability and Control                 | Theory         | 3.00                | 3.00         |
| <b>Subtotal (Theory)</b>                                    |                                                |                | <b>15.00</b>        | <b>15.00</b> |
| AE 300                                                      | Industrial Training                            | Sessional      | 8 weeks             | 1.00         |
| AEAV 306                                                    | Communication Engineering Sessional            | Sessional      | 1.50                | 0.75         |
| AEAV 324                                                    | Digital Signal Processing Sessional            | Sessional      | 1.50                | 0.75         |
| AEAV 330                                                    | Measurement and Aircraft Instruments Sessional | Sessional      | 1.50                | 0.75         |
| GERM 352                                                    | Fundamentals of Research Methodology           | Sessional      | 4.00                | 2.00         |
| <b>Subtotal (Sessional)</b>                                 |                                                |                | <b>8.50+8 weeks</b> | <b>5.25</b>  |
| <b>Total = Contact hours: 23.50+8 weeks; Credits: 20.25</b> |                                                |                |                     |              |

### Level- 4, Term-I (Aerospace)

| Course Code                                         | Course Name                             | Type of Course | Contact Hour | Credits      |
|-----------------------------------------------------|-----------------------------------------|----------------|--------------|--------------|
| AEAS 437                                            | Aerospace Vehicle Design                | Theory         | 3.00         | 3.00         |
| AEAS 439                                            | Rotor-dynamics and Aircraft Performance | Theory         | 3.00         | 3.00         |
| AEAS 447                                            | Space Engineering                       | Theory         | 3.00         | 3.00         |
| GESL 409                                            | Environment Sustainability and Law      | Theory         | 2.00         | 2.00         |
| AEAS 4XX                                            | Elective III                            | Theory         | 3.00         | 3.00         |
| <b>Subtotal (Theory)</b>                            |                                         |                | <b>14.00</b> | <b>14.00</b> |
| AEAS 400                                            | Final Year Design and Research Project  | Sessional      | 6.00         | 3.00         |
| AEAS 438                                            | Aerospace Vehicle Design Sessional      | Sessional      | 3.00         | 1.50         |
| <b>Subtotal (Sessional)</b>                         |                                         |                | <b>9.00</b>  | <b>4.50</b>  |
| <b>Total = Contact hours: 23.00; Credits: 18.50</b> |                                         |                |              |              |

### Level- 4, Term-I (Avionics)

| Course Code                                         | Course Name                            | Type of Course | Contact Hour | Credits      |
|-----------------------------------------------------|----------------------------------------|----------------|--------------|--------------|
| AEAV 401                                            | Microwave Engineering                  | Theory         | 3.00         | 3.00         |
| AEAV 407                                            | Radar Engineering                      | Theory         | 3.00         | 3.00         |
| AEAS 447                                            | Space Engineering                      | Theory         | 3.00         | 3.00         |
| GESL 409                                            | Environment Sustainability and Law     | Theory         | 2.00         | 2.00         |
| AEAS 4XX                                            | Elective III                           | Theory         | 3.00         | 3.00         |
| <b>Subtotal (Theory)</b>                            |                                        |                | <b>14.00</b> | <b>14.00</b> |
| AEAV 400                                            | Final Year Design and Research Project | Sessional      | 6.00         | 3.00         |
| AEAV 408                                            | Radar Engineering Sessional            | Sessional      | 1.50         | 0.75         |
| AEAV 442                                            | Microwave Engineering Sessional        | Sessional      | 1.50         | 0.75         |
| <b>Subtotal (Sessional)</b>                         |                                        |                | <b>9.00</b>  | <b>4.50</b>  |
| <b>Total = Contact hours: 23.00; Credits: 18.50</b> |                                        |                |              |              |



#### Level- 4, Term-II (Aerospace)

| Course Code                                         | Course Name                            | Type of Course | Contact Hour | Credits      |
|-----------------------------------------------------|----------------------------------------|----------------|--------------|--------------|
| AEAS 407                                            | Turbo Machinery                        | Theory         | 3.00         | 3.00         |
| AEAV 411                                            | Control Systems Engineering            | Theory         | 3.00         | 3.00         |
| AEAS 413                                            | High Speed Aerodynamics                | Theory         | 3.00         | 3.00         |
| GEPM 469                                            | Project Management and Finance         | Theory         | 2.00         | 2.00         |
| AEAS 4XX                                            | Elective IV                            | Theory         | 3.00         | 3.00         |
| <b>Subtotal (Theory)</b>                            |                                        |                | <b>14.00</b> | <b>14.00</b> |
| AEAS 400                                            | Final Year Design and Research Project | Sessional      | 6.00         | 3.00         |
| AEAS 408                                            | Turbo Machinery Sessional              | Sessional      | 1.50         | 0.75         |
| AEAV 412                                            | Control Systems Engineering Sessional  | Sessional      | 1.50         | 0.75         |
| <b>Subtotal (Sessional)</b>                         |                                        |                | <b>3.00</b>  | <b>4.50</b>  |
| <b>Total = Contact hours: 23.00; Credits: 18.50</b> |                                        |                |              |              |

#### Level- 4, Term-II (Avionics)

| Course Code                                         | Course Name                                     | Type of Course | Contact Hour | Credits      |
|-----------------------------------------------------|-------------------------------------------------|----------------|--------------|--------------|
| AEAV 411                                            | Control Systems Engineering                     | Theory         | 3.00         | 3.00         |
| AEAV 443                                            | Aircraft Communication and Navigation           | Theory         | 4.00         | 4.00         |
| GEPM 469                                            | Project Management and Finance                  | Theory         | 2.00         | 2.00         |
| AEAS 4XX                                            | Elective IV                                     | Theory         | 3.00         | 3.00         |
| <b>Subtotal (Theory)</b>                            |                                                 |                | <b>12.00</b> | <b>12.00</b> |
| AEAV 400                                            | Final Year Design and Research Project          | Sessional      | 6.00         | 3.00         |
| AEAV 412                                            | Control Systems Engineering Sessional           | Sessional      | 1.50         | 0.75         |
| AEAV 444                                            | Aircraft Communication and Navigation Sessional | Sessional      | 1.50         | 0.75         |
| <b>Subtotal (Sessional)</b>                         |                                                 |                | <b>9.00</b>  | <b>4.50</b>  |
| <b>Total = Contact hours: 21.00; Credits: 16.50</b> |                                                 |                |              |              |

# DEPT OF NAVAL ARCHITECTURE AND MARINE ENGINEERING

Total Credit Hours: 160.00

## Level- 1, Term-I

| Course Code              | Course Name                                               | Contact Hour | Credits      |
|--------------------------|-----------------------------------------------------------|--------------|--------------|
| <b>Theory Courses</b>    |                                                           |              |              |
| NAME 107                 | Introduction to Naval Architecture and Marine Engineering | 3.00         | 3.00         |
| CHEM 101                 | Fundamentals of Chemistry                                 | 3.00         | 3.00         |
| MATH 101                 | Differential Calculus and Integral Calculus               | 3.00         | 3.00         |
| PHY 101                  | Wave Oscillation, Geometrical Optics and Modern Physics   | 3.00         | 3.00         |
| GEBS 101                 | Bangladesh Studies                                        | 2.00         | 2.00         |
| <b>Sessional Courses</b> |                                                           |              |              |
| CHEM 102                 | Chemistry Lab                                             | 3.00         | 1.50         |
| PHY 102                  | Physics Lab                                               | 3.00         | 1.50         |
| ME 150                   | Mechanical Engineering Drawing                            | 3.00         | 1.50         |
| SHOP 180                 | Workshop Practice                                         | 3.00         | 1.50         |
| <b>Total (5T + 4S)</b>   |                                                           | <b>26.00</b> | <b>20.00</b> |

## Level- 1, Term-II

| Course Code              | Course Name                                    | Contact Hour | Credits      |
|--------------------------|------------------------------------------------|--------------|--------------|
| <b>Theory Courses</b>    |                                                |              |              |
| NAME 157                 | Hydrostatics and Stability                     | 3.00         | 3.00         |
| NAME 177                 | Thermal Engineering                            | 3.00         | 3.00         |
| CSE 115                  | Computer Programming Language                  | 3.00         | 3.00         |
| MATH 103                 | Differential Equation and Matrix               | 3.00         | 3.00         |
| PHY 113                  | Structure of Matter, Electricity and Magnetism | 3.00         | 3.00         |
| <b>Sessional Courses</b> |                                                |              |              |
| NAME 158                 | Basic Ship Design                              | 3.00         | 1.50         |
| NAME 178                 | Thermal Engineering Lab                        | 3.00         | 1.50         |
| LANG 102                 | Communicative English-I                        | 3.00         | 1.50         |
| CSE 116                  | Computer Programming Lab                       | 3.00         | 1.50         |
| <b>Total (5T + 4S)</b>   |                                                | <b>27.00</b> | <b>21.00</b> |

## Level- 2, Term-I

| Course Code              | Course Name                                      | Contact Hour | Credits      |
|--------------------------|--------------------------------------------------|--------------|--------------|
| <b>Theory Courses</b>    |                                                  |              |              |
| NAME 201                 | Mechanics of Structure                           | 3.00         | 3.00         |
| NAME 205                 | Shipbuilding Materials and Metallurgy            | 3.00         | 3.00         |
| NAME 207                 | Ship Design                                      | 3.00         | 3.00         |
| NAME 213                 | Fluid Mechanics                                  | 3.00         | 3.00         |
| MATH 201                 | Vector Analysis, Laplace and Coordinate Geometry | 3.00         | 3.00         |
| <b>Sessional Courses</b> |                                                  |              |              |
| NAME 208                 | Computer Aided Ship Design                       | 4.00         | 2.00         |
| NAME 214                 | Fluid Mechanics Lab                              | 3.00         | 1.50         |
| LANG 202                 | Communicative English-II                         | 3.00         | 1.50         |
| <b>Total (5T + 3S)</b>   |                                                  | <b>25.00</b> | <b>20.00</b> |

## Level- 2, Term-II

| Course Code              | Course Name                                       | Contact Hour | Credits      |
|--------------------------|---------------------------------------------------|--------------|--------------|
| <b>Theory Courses</b>    |                                                   |              |              |
| NAME 253                 | Marine Hydrodynamics                              | 3.00         | 3.00         |
| ME 277                   | Heat Transfer                                     | 3.00         | 3.00         |
| EECE 281                 | Marine Electrical and Electronics                 | 4.00         | 4.00         |
| MATH 219                 | Statistics, Complex Variable and Fourier Analysis | 3.00         | 3.00         |
| GELM 275                 | Leadership & Management                           | 2.00         | 2.00         |
| <b>Sessional Courses</b> |                                                   |              |              |
| NAME 202                 | Mechanics of Structure Lab                        | 1.50         | 0.75         |
| NAME 206                 | Shipbuilding Materials and Metallurgy Lab         | 1.50         | 0.75         |
| NAME 254                 | Marine Hydrodynamics Lab                          | 3.00         | 1.50         |
| NAME 258                 | Stability and Machinery Layout Design             | 3.00         | 1.50         |
| <b>Total (5T + 4S)</b>   |                                                   | <b>24.00</b> | <b>19.50</b> |

## Level- 3, Term-I

| Course Code                 | Course Name                              | Contact Hour | Credits      |
|-----------------------------|------------------------------------------|--------------|--------------|
| <b>Theory Courses</b>       |                                          |              |              |
| NAME 301                    | Ship Structure                           | 3.00         | 3.00         |
| NAME 315                    | Ship Construction and Welding Technology | 3.00         | 3.00         |
| NAME 353                    | Ship Resistance and Propulsion           | 3.00         | 3.00         |
| NAME 311                    | Machine Elements Design                  | 3.00         | 3.00         |
| GEE 303                     | Fundamentals of Economics                | 2.00         | 2.00         |
| GES 305                     | Fundamentals of Sociology                | 2.00         | 2.00         |
| <b>Sessional Courses</b>    |                                          |              |              |
| NAME 300                    | Ship Design Project                      | 3.00         | 1.50         |
| NAME 308                    | Application of ship design software      | 3.00         | 1.50         |
| EECE 382                    | Marine Electrical and Electronics Lab    | 3.00         | 1.50         |
| <b>Total (6T + 2S + 1P)</b> |                                          | <b>25.00</b> | <b>20.50</b> |

## Level- 3, Term-II

| Course Code                 | Course Name                                    | Contact Hour | Credits      |
|-----------------------------|------------------------------------------------|--------------|--------------|
| <b>Theory Courses</b>       |                                                |              |              |
| NAME 307                    | Design of Special Ships                        | 3.00         | 3.00         |
| NAME 309                    | Marine Engineering-I                           | 3.00         | 3.00         |
| NAME 363                    | Numerical Methods                              | 3.00         | 3.00         |
| GESL311                     | Environment, Sustainability and Industrial Law | 2.00         | 2.00         |
| NAME 3XX                    | Optional Course 1*                             | 3.00         | 3.00         |
| <b>Sessional Courses</b>    |                                                |              |              |
| NAME 300                    | Ship Design Project                            | 3.00         | 1.50         |
| NAME 310                    | Marine Engineering Lab-I                       | 3.00         | 1.50         |
| NAME 354                    | Ship Resistance and Propulsion Lab             | 3.00         | 1.50         |
| GERM 352                    | Fundamentals of Research Methodology           | 4.00         | 2.00         |
| <b>Total (5T + 3S + 1P)</b> |                                                | <b>27.00</b> | <b>20.50</b> |



#### Level- 4, Term-I

| Course Code                  | Course Name                                        | Contact Hour           | Credits      |
|------------------------------|----------------------------------------------------|------------------------|--------------|
| <b>Theory Courses</b>        |                                                    |                        |              |
| NAME 403                     | Dynamics of Marine Vehicles                        | 3.0                    | 3.0          |
| NAME 409                     | Marine Engineering -II                             | 3.0                    | 3.0          |
| GEA407                       | Principles of Accounting                           | 2.0                    | 2.0          |
| GEPM 471                     | Project Management and Finance                     | 2.0                    | 2.0          |
| NAME 4XX                     | Optional Course 2*                                 | 3.0                    | 3.0          |
| <b>Sessional Courses</b>     |                                                    |                        |              |
| NAME 400                     | Research Project/ Thesis                           | 6.00                   | 3.00         |
| NAME 464                     | Numerical Methods Lab                              | 3.00                   | 1.50         |
| NAME 450                     | Shipyards Practice/Industrial Training (4 Weeks)** | 4 weeks                | 1.50         |
| <b>Total (5T + 2S + 1RP)</b> |                                                    | <b>22.00 + 4 weeks</b> | <b>19.00</b> |

#### Level- 4, Term-II

| Course Code                 | Course Name                               | Contact Hour | Credits      |
|-----------------------------|-------------------------------------------|--------------|--------------|
| <b>Theory Courses</b>       |                                           |              |              |
| NAME 457                    | Maritime Economics and Management         | 3.00         | 3.00         |
| NAME 459                    | Marine Maintenance and Repair Engineering | 3.00         | 3.00         |
| GEEM 441                    | Engineering Ethics and Moral Philosophy   | 2.00         | 2.00         |
| NAME 4XX                    | Optional Course 3*                        | 3.00         | 3.00         |
| NAME 4XX                    | Optional Course 4*                        | 3.00         | 3.00         |
| <b>Sessional Courses</b>    |                                           |              |              |
| NAME 400                    | Research Project/Thesis                   | 6.00         | 3.00         |
| NAME 410                    | Marine Engineering Lab-II                 | 3.00         | 1.50         |
| NAME 490                    | Bangladesh Studies for Naval Architects   | 2.00         | 1.00         |
| <b>Total (5T + 2S + 1P)</b> |                                           | <b>25.00</b> | <b>19.50</b> |

#### List of Optional Courses:

| Ser. | Course Code | Course Title                             | Type of Course | Credit Hour | Level & Term |
|------|-------------|------------------------------------------|----------------|-------------|--------------|
| 1.   | NAME 371    | Finite Element Method for Ship Structure | Theory         | 3.00        | L-3, T-1/2   |
| 2.   | NAME 373    | Computational Fluid Dynamics (CFD)       | Theory         | 3.00        | L-3, T-1/2   |
| 3.   | NAME 375    | Composite Materials                      | Theory         | 3.00        | L-3, T-1/2   |
| 4.   | NAME 387    | Portland Harbor Engineering              | Theory         | 3.00        | L-3, T-1/2   |
| 5.   | NAME 389    | Marine Production and Planning           | Theory         | 3.00        | L-3, T-1/2   |
| 6.   | NAME 431    | Ship Hull Vibration                      | Theory         | 3.00        | L-4, T-1/2   |
| 7.   | NAME 435    | Computer Aided Ship Production           | Theory         | 3.00        | L-4, T-1/2   |
| 8.   | NAME 437    | Inland Water Transportation System       | Theory         | 3.00        | L-4, T-1/2   |
| 9.   | NAME 445    | Dredger and Dredging Technology          | Theory         | 3.00        | L-4, T-1/2   |
| 10.  | NAME 447    | Maritime Transportation System           | Theory         | 3.00        | L-4, T-1/2   |
| 11.  | NAME 453    | Power and Propulsion System              | Theory         | 3.00        | L-4, T-1/2   |
| 12.  | NAME 463    | Ship Performance                         | Theory         | 3.00        | L-4, T-1/2   |
| 13.  | NAME 465    | Navigation and Maritime Regulations      | Theory         | 3.00        | L-4, T-1/2   |
| 14.  | NAME 477    | Control Engineering                      | Theory         | 3.00        | L-4, T-1/2   |
| 15.  | NAME 481    | Optimization Method in Ship Design       | Theory         | 3.00        | L-4, T-1/2   |
| 16.  | NAME 483    | Theory of Hydrofoils                     | Theory         | 3.00        | L-4, T-1/2   |
| 17.  | NAME 489    | Introduction to Offshore Structure       | Theory         | 3.00        | L-4, T-1/2   |
| 18.  | NAME 493    | Marine Acoustics                         | Theory         | 3.00        | L-4, T-1/2   |
| 19.  | NAME 499    | Shipyards Management                     | Theory         | 3.00        | L-4, T-1/2   |

# DEPT OF INDUSTRIAL AND PRODUCTION ENGINEERING

Total Credit Hours: 160.00

## Level- 1, Term-I

| Course Code                | Course Title                                          | Contact hours | Credit       |
|----------------------------|-------------------------------------------------------|---------------|--------------|
| IPE 101                    | Introduction to Industrial and Production Engineering | 3.00          | 3.00         |
| MATH 101                   | Differential and Integral Calculus                    | 3.00          | 3.00         |
| CHEM 101                   | Fundamentals of Chemistry                             | 3.00          | 3.00         |
| PHY 101                    | Waves & Oscillations, Optics and Modern Physics       | 3.00          | 3.00         |
| GES 101                    | Fundamentals of Sociology                             | 2.00          | 2.00         |
| <b>Total Theoretical :</b> |                                                       | <b>14.00</b>  | <b>14.00</b> |
| PHY 102                    | Physics Sessional                                     | 3.00          | 1.50         |
| SHOP 172                   | Machine Shop Practice                                 | 2.00          | 1.00         |
| CHEM 102                   | Chemistry Sessional                                   | 3.00          | 1.50         |
| <b>Total Sessional :</b>   |                                                       | <b>8.00</b>   | <b>4.00</b>  |
| <b>Grand Term Total:</b>   |                                                       | <b>22.00</b>  | <b>18.00</b> |

## Level- 1, Term-II

| Course Code                | Course Title                                    | Contact hours | Credit       |
|----------------------------|-------------------------------------------------|---------------|--------------|
| MATH 103                   | Differential Equations and Matrix               | 3.00          | 3.00         |
| IPE 105                    | Engineering Materials                           | 3.00          | 3.00         |
| EECE 171                   | Basic Electrical & Electronic Circuit           | 3.00          | 3.00         |
| GEA 101                    | Principles of Accounting                        | 2.00          | 2.00         |
| GEBS 101                   | Bangladesh Studies                              | 2.00          | 2.00         |
| <b>Total Theoretical :</b> |                                                 | <b>13.00</b>  | <b>13.00</b> |
| ME 160                     | Engineering Drawing                             | 3.00          | 1.50         |
| LANG 102                   | Communicative English I                         | 3.00          | 1.50         |
| EECE 172                   | Basic Electrical & Electronic Circuit Sessional | 1.50          | 0.75         |
| IPE 106                    | Engineering Materials Sessional                 | 3.00          | 1.50         |
| <b>Total Sessional :</b>   |                                                 | <b>10.50</b>  | <b>5.25</b>  |
| <b>Grand Term Total:</b>   |                                                 | <b>23.50</b>  | <b>18.25</b> |

## Level- 2, Term-I

| Course Code                | Course Title                                                   | Contact hours | Credit       |
|----------------------------|----------------------------------------------------------------|---------------|--------------|
| MATH 201                   | Vector Analysis, Laplace Transformation & Co-ordinate Geometry | 3.00          | 3.00         |
| EECE 271                   | Electrical Machines and Electronics                            | 3.00          | 3.00         |
| CSE 281                    | Computer Programming                                           | 3.00          | 3.00         |
| IPE 201                    | Manufacturing Processes I                                      | 3.00          | 3.00         |
| GELM 275                   | Leadership and Management                                      | 2.00          | 2.00         |
| IPE 207                    | Engineering Economy                                            | 3.00          | 3.00         |
| <b>Total Theoretical :</b> |                                                                | <b>17.00</b>  | <b>17.00</b> |
| EECE 272                   | Electrical Machines and Electronics Sessional                  | 1.50          | 0.75         |
| CSE 282                    | Computer Programming Sessional                                 | 3.00          | 1.50         |
| IPE 202                    | Manufacturing Processes I Sessional                            | 1.50          | 0.75         |
| IPE 200                    | Engineering Graphics and CAD Sessional                         | 3.00          | 1.50         |
| LANG 202                   | Communicative English II                                       | 3.00          | 1.50         |
| <b>Total Sessional :</b>   |                                                                | <b>12.00</b>  | <b>6.00</b>  |
| <b>Grand Term Total:</b>   |                                                                | <b>29.00</b>  | <b>23.00</b> |

## Level- 2, Term-II

| Course Code                | Course Title                                     | Contact Hour | Credit       |
|----------------------------|--------------------------------------------------|--------------|--------------|
| IPE 203                    | Manufacturing Process II                         | 3.00         | 3.00         |
| IPE 205                    | Probability and Statistics                       | 3.00         | 3.00         |
| IPE 243                    | Mechanics of Solids                              | 3.00         | 3.00         |
| IPE 251                    | Thermodynamics and Heat Transfer                 | 3.00         | 3.00         |
| MATH 215                   | Numerical Analysis                               | 3.00         | 3.00         |
| IPE 271                    | Engineering Mechanics and Mechanics of Machinery | 3.00         | 3.00         |
| <b>Total Theoretical :</b> |                                                  | <b>18</b>    | <b>18</b>    |
| IPE 204                    | Manufacturing Processes II Sessional             | 1.50         | 0.75         |
| IPE 206                    | Probability and Statistics Sessional             | 1.50         | 0.75         |
| IPE 244                    | Mechanics of Solids Sessional                    | 1.50         | 0.75         |
| IPE 252                    | Thermodynamics and Heat Transfer Sessional       | 1.50         | 0.75         |
| <b>Total Sessional :</b>   |                                                  | <b>6.00</b>  | <b>3.00</b>  |
| <b>Grand Term Total:</b>   |                                                  | <b>24.00</b> | <b>21.00</b> |



### Level- 3, Term-I

| Course Code               | Course Title                                       | Contact Hour | Credit       |
|---------------------------|----------------------------------------------------|--------------|--------------|
| IPE 351                   | Fluid Mechanics & Machinery                        | 3.00         | 3.00         |
| IPE 301                   | Measurement, Instrumentation and Control           | 3.00         | 3.00         |
| IPE 303                   | Product Design I                                   | 3.00         | 3.00         |
| IPE 305                   | Operations Research                                | 4.00         | 4.00         |
| GEEM 343                  | Engineering Ethics and Moral Philosophy            | 2.00         | 2.00         |
| GESL 313                  | Environment, Sustainability and Law                | 2.00         | 2.00         |
| <b>Total Theoretical:</b> |                                                    | <b>17.00</b> | <b>17.00</b> |
| IPE 352                   | Fluid Mechanics & Machinery Sessional              | 1.50         | 0.75         |
| IPE 302                   | Measurement, Instrumentation and Control Sessional | 1.50         | 0.75         |
| IPE 306                   | Operations Research Sessional                      | 1.50         | 0.75         |
| GERM 352                  | Fundamentals of Research Methodology               | 4.00         | 2.00         |
| <b>Total Sessional :</b>  |                                                    | <b>8.50</b>  | <b>4.25</b>  |
| <b>Grand Term Total:</b>  |                                                    | <b>25.5</b>  | <b>21.25</b> |

### Level- 3, Term-II

| Course Code              | Course Title                                           | Contact Hour | Credit Hour  |
|--------------------------|--------------------------------------------------------|--------------|--------------|
| IPE 309                  | Material Handling and Maintenance Management           | 3.00         | 3.00         |
| IPE 311                  | Operations Management                                  | 3.00         | 3.00         |
| IPE 313                  | Quality Management                                     | 3.00         | 3.00         |
| IPE 315                  | Entrepreneurship Development and Micro Industries      | 2.00         | 2.00         |
| IPE 317                  | Ergonomics and Safety Management                       | 3.00         | 3.00         |
| IPE 307                  | Product Design II                                      | 3.00         | 3.00         |
| <b>Total Theoretical</b> |                                                        | <b>17.00</b> | <b>17.00</b> |
| IPE 308                  | Product Design Sessional                               | 1.50         | 0.75         |
| IPE 310                  | Material Handling and Maintenance Management Sessional | 1.50         | 0.75         |
| IPE 314                  | Quality Management Sessional                           | 1.50         | 0.75         |
| IPE 318                  | Ergonomics and Safety Management                       | 1.50         | 0.75         |
| IPE 320                  | Industrial Practice                                    | 4 Weeks      | 1.00         |
| <b>Total Sessional :</b> |                                                        | <b>6.00</b>  | <b>4.00</b>  |
| <b>Grand Term Total:</b> |                                                        | <b>23.00</b> | <b>21.00</b> |

### Level- 4, Term-I

| Course Code                | Course Title                           | Contact Hour | Credit Hour  |
|----------------------------|----------------------------------------|--------------|--------------|
| IPE 421                    | Machine Tools                          | 3.00         | 3.00         |
| IPE 419                    | Modeling and Simulation                | 3.00         | 3.00         |
| IPE 415                    | Project Management                     | 3.00         | 3.00         |
| IPE ---                    | Optional I                             | 3.00         | 3.00         |
| IPE ---                    | Optional II                            | 3.00         | 3.00         |
| <b>Total Theoretical :</b> |                                        | <b>15.00</b> | <b>15.00</b> |
| IPE 400                    | Final Year Design & Research Project I | 6.00         | 3.00         |
| IPE 420                    | Modeling and Simulation Sessional      | 1.50         | 0.75         |
| IPE 422                    | Machine Tools Sessional                | 3.00         | 1.50         |
| IPE 450                    | Business Communication Seminar         | 1.50         | 0.75         |
| <b>Total Sessional :</b>   |                                        | <b>12.00</b> | <b>6.00</b>  |
| <b>Grand Term Total:</b>   |                                        | <b>27.00</b> | <b>21.00</b> |

### Level- 4, Term-II

| Course No                  | Course Title                                     | Contact Hour | Credit Hour  |
|----------------------------|--------------------------------------------------|--------------|--------------|
| IPE 405                    | Supply Chain Management                          | 3.00         | 3.00         |
| IPE 411                    | CAD/CAM                                          | 3.00         | 3.00         |
| IPE ---                    | Optional III                                     | 3.00         | 3.00         |
| IPE ---                    | Optional IV                                      | 3.00         | 3.00         |
| <b>Total Theoretical :</b> |                                                  | <b>12.00</b> | <b>12.00</b> |
| IPE 400                    | Final Year Design & Research Project II          | 6.00         | 3.00         |
| IPE 412                    | CAD/CAM Sessional                                | 1.50         | 0.75         |
| IPE 418                    | Mechatronics and Industrial Automation Sessional | 1.50         | 0.75         |
| <b>Total Sessional :</b>   |                                                  | <b>9.00</b>  | <b>4.50</b>  |
| <b>Grand Term Total:</b>   |                                                  | <b>21.00</b> | <b>16.50</b> |

The grand total credit hours required for the degree of B.Sc. in Industrial and Production Engineering is **160.00**.

# FACULTY OF SCIENCE AND ENGINEERING

## DEPT OF BIOMEDICAL ENGINEERING

Total Credit Hours: 160.00

### Level- 1, Term-I

| Course Code | Course Name                                       | Contact Hour | Credits |
|-------------|---------------------------------------------------|--------------|---------|
| BME 101     | Introduction to Biomedical Engineering            | 2.00         | 2.00    |
| PHY 101     | Waves and Oscillations, Optics and Modern physics | 3.00         | 3.00    |
| PHY 102     | Physics Sessional                                 | 3.00         | 1.50    |
| CHEM 101    | Fundamentals of Chemistry                         | 3.00         | 3.00    |
| CHEM 102    | Chemistry Sessional                               | 3.00         | 1.50    |
| MATH 101    | Differential and Integral Calculus                | 3.00         | 3.00    |
| EECE 191    | Principles of Electrical Engineering              | 3.00         | 3.00    |
| EECE 192    | Principles of Electrical Engineering Sessional    | 3.00         | 1.50    |
| Total:      |                                                   | 23.00        | 18.50   |

### Level- 1, Term-II

| Course Code | Course Name                                                   | Contact Hour | Credits |
|-------------|---------------------------------------------------------------|--------------|---------|
| BME 104     | CAD in Biomedical Engineering Sessional                       | 3.00         | 1.50    |
| BME 105     | Human Anatomy                                                 | 3.00         | 3.00    |
| PHY 109     | Structure of matter, Electricity and Magnetism, and Mechanics | 3.00         | 3.00    |
| CHEM 125    | Physical and Bio-organic Chemistry                            | 3.00         | 3.00    |
| MATH 105    | Vector Analysis, Matrix and Coordinate Geometry               | 3.00         | 3.00    |
| GES 101     | Fundamentals of Sociology                                     | 2.00         | 2.00    |
| GEBS 101    | Bangladesh Studies                                            | 2.00         | 2       |
| LANG 102    | Communicative English I                                       | 3.00         | 1.50    |
| Total:      |                                                               | 22.00        | 19.00   |

### Level- 2, Term-I

| Course Code | Course Name                                                    | Contact Hour | Credits |
|-------------|----------------------------------------------------------------|--------------|---------|
| BME 201     | Human Physiology                                               | 3.00         | 3.00    |
| MATH 205    | Differential Equation, Laplace transform and Fourier Transform | 3.00         | 3.00    |
| EECE 291    | Electronic Circuits and Devices                                | 3.00         | 3.00    |
| EECE 292    | Electronic Circuits and Devices Sessional                      | 3.00         | 1.50    |
| CSE 291     | Computer Programming                                           | 3.00         | 3.00    |
| CSE 292     | Computer Programming Sessional                                 | 3.00         | 1.50    |
| GELM 271    | Leadership and Management                                      | 2.00         | 2.00    |
| LANG 202    | Communicative English II                                       | 3.00         | 1.50    |
| Total:      |                                                                | 23.00        | 18.50   |

### Level- 2, Term-II

| Course Code | Course Name                                           | Contact Hour | Credits |
|-------------|-------------------------------------------------------|--------------|---------|
| BME 203     | Biochemistry                                          | 3.00         | 3.00    |
| BME 204     | Biochemistry Sessional                                | 3.00         | 1.50    |
| BME 205     | Biofluid Mechanics and Heat Transfer                  | 3.00         | 3.00    |
| BME 206     | Biofluid Mechanics and Heat Transfer Sessional        | 3.00         | 1.50    |
| BME 207     | Biomedical Instrumentation and Measurements           | 3.00         | 3.00    |
| BME 208     | Biomedical Instrumentation and Measurements Sessional | 3.00         | 1.50    |
| ME 291      | Principles of Mechanical Engineering                  | 3.00         | 3.00    |
| ME 292      | Mechanical Engineering Lab                            | 3.00         | 1.50    |
| MATH 231    | Complex Variables and Linear Algebra                  | 3.00         | 3.00    |
| Total:      |                                                       | 27.00        | 21.00   |

### Level- 3, Term-I

| Course Code | Course Name                                      | Contact Hour | Credits |
|-------------|--------------------------------------------------|--------------|---------|
| BME 301     | Statistics and Numerical Methods for Engineers   | 3.00         | 3.00    |
| BME 303     | Biomaterials                                     | 3.00         | 3.00    |
| BME 304     | Biomaterials Sessional                           | 3.00         | 1.50    |
| BME 305     | Biomedical Signal Processing                     | 3.00         | 3.00    |
| BME 306     | Biomedical Signal Processing Sessional           | 3.00         | 1.50    |
| BME 307     | Medical Imaging                                  | 3.00         | 3.00    |
| EECE 391    | Digital Electronics                              | 3.00         | 3.00    |
| EECE 392    | Digital Electronics Sessional                    | 3.00         | 1.50    |
| GERM 352    | Fundamentals of Research Methodology (Sessional) | 4.00         | 2.00    |
| Total:      |                                                  | 28.00        | 21.50   |

### Level- 3, Term-II

| Course Code | Course Name                                | Contact Hour | Credits |
|-------------|--------------------------------------------|--------------|---------|
| BME 309     | Diagnostic and Therapeutic Equipment-I     | 3.00         | 3.00    |
| BME 311     | Embedded Systems and Interfacing           | 3.00         | 3.00    |
| BME 312     | Embedded Systems and Interfacing Sessional | 3.00         | 1.50    |
| BME 313     | Biomedical Image Processing                | 3.00         | 3.00    |
| BME 314     | Biomedical Image Processing Sessional      | 3.00         | 1.50    |
| BME 315     | Biomechanics                               | 3.00         | 3.00    |
| BME 316     | Biomechanics Sessional                     | 3.00         | 1.50    |
| BME 318     | Biomedical Engineering Design Sessional    | 3.00         | 1.50    |
| BME 300     | Industrial Training                        | 4 weeks      | 1.50    |
| Total:      |                                            | 24.00        | 19.50   |

# BME 300 (Industrial Training) will be conducted at any convenient time after the term end exam of term-2 for a duration of ¼ weeks as applicable or decided by the department.



### Level- 4, Term-I

| Course Code   | Course Name                               | Contact Hour | Credit       |
|---------------|-------------------------------------------|--------------|--------------|
| BME 401       | Diagnostic and Therapeutic Equipment-II   | 3.00         | 3.00         |
| BME 403       | Biomedical Transport Phenomenon           | 3.00         | 3.00         |
| BME 405       | Molecular Biology for Engineers           | 3.00         | 3.00         |
| BME 406       | Molecular Biology for Engineers Sessional | 3.00         | 1.50         |
| BME 4**       | Elective 1                                | 3.00         | 3.00         |
| BME 4**       | Elective 2                                | 3.00         | 3.00         |
| GEPM 481      | Project Management and Finance            | 2.00         | 2.00         |
| BME 400       | Final Year Design and Research Project    | 6.00         | 3.00         |
| <b>Total:</b> |                                           | <b>26.00</b> | <b>21.50</b> |

### Level- 4, Term-II

| Course Code   | Course Name                             | Contact Hour | Credit       |
|---------------|-----------------------------------------|--------------|--------------|
| BME 407       | Healthcare Technology Management        | 3.00         | 3.00         |
| BME 409       | Rehabilitation Engineering              | 3.00         | 3.00         |
| BME 410       | Rehabilitation Engineering Sessional    | 3.00         | 1.50         |
| BME 4**       | Elective 3                              | 3.00         | 3.00         |
| BME 4**       | Elective 4                              | 3.00         | 3.00         |
| GESL 421      | Environment, Sustainability and Law     | 2.00         | 2.00         |
| GEEM 451      | Engineering Ethics and Moral Philosophy | 2.00         | 2.00         |
| BME 400       | Final Year Design and Research Project  | 6.00         | 3.00         |
| <b>Total:</b> |                                         | <b>25.00</b> | <b>20.50</b> |

## DEPT OF NUCLEAR SCIENCE AND ENGINEERING (NSE)

**Total Credit Hours: 160.00**

### Level- 1, Term-I

| Course Code             | Course Title                                          | Contact Hour | Credits      |
|-------------------------|-------------------------------------------------------|--------------|--------------|
| NE 101                  | Introduction to Nuclear Engineering                   | 3.00         | 3.00         |
| PHY 101                 | Waves and Oscillations, Optics and Modern Physics     | 3.00         | 3.00         |
| MATH 101                | Differential and Integral Calculus                    | 3.00         | 3.00         |
| EECE 119                | Fundamentals of Electrical Circuit Analysis           | 3.00         | 3.00         |
| GES 101                 | Fundamentals of Sociology                             | 2.00         | 2.00         |
| <b>Theory Total:</b>    |                                                       | <b>14.00</b> | <b>14.00</b> |
| LANG 172                | Introduction to Russian Language - I                  | 1.50         | 0.75         |
| PHY 102                 | Physics Sessional                                     | 3.00         | 1.50         |
| EECE 120                | Fundamentals of Electrical Circuit Analysis Sessional | 1.50         | 0.75         |
| ME 180                  | Basic Engineering Drawing                             | 3.00         | 1.50         |
| <b>Sessional Total:</b> |                                                       | <b>9.00</b>  | <b>4.50</b>  |
| <b>Term Total:</b>      |                                                       | <b>23.00</b> | <b>18.50</b> |

### Level- 1, Term-II

| Course Code             | Course Title                                                        | Contact Hour | Credits      |
|-------------------------|---------------------------------------------------------------------|--------------|--------------|
| NE 105                  | Fundamentals of Atomic and Nuclear Physics                          | 3.00         | 3.00         |
| NE 141                  | Fundamentals of Thermodynamics                                      | 3.00         | 3.00         |
| CHEM 101                | Fundamentals of Chemistry                                           | 3.00         | 3.00         |
| MATH 103                | Differential Equations and Matrix                                   | 3.00         | 3.00         |
| CSE 121                 | Introduction to Computer Science and Programming Language           | 3.00         | 3.00         |
| GEBS 101                | Bangladesh Studies                                                  | 2.00         | 2.00         |
| <b>Theory Total:</b>    |                                                                     | <b>17.00</b> | <b>17.00</b> |
| LANG 174                | Introduction to Russian Language - II                               | 1.50         | 0.75         |
| CHEM 102                | Chemistry Sessional                                                 | 3.00         | 1.50         |
| LANG 102                | Communicative English-I                                             | 3.00         | 1.50         |
| CSE 122                 | Introduction to Computer Science and Programming Language Sessional | 1.50         | 0.75         |
| <b>Sessional Total:</b> |                                                                     | <b>9.00</b>  | <b>4.50</b>  |
| <b>Term Total:</b>      |                                                                     | <b>26.00</b> | <b>21.50</b> |

### Level- 2, Term-I

| Course Code             | Course Title                                                    | Contact Hour | Credits      |
|-------------------------|-----------------------------------------------------------------|--------------|--------------|
| NE 203                  | Introduction to Nuclear and Radio Chemistry                     | 3.00         | 3.00         |
| NE 243                  | Fundamentals of Heat Transfer and Thermal Engineering           | 4.00         | 4.00         |
| NE 251                  | Nuclear Materials                                               | 3.00         | 3.00         |
| MATH 201                | Vector Analysis, Laplace Transform and Coordinate Geometry      | 3.00         | 3.00         |
| GELM 275                | Leadership and Management                                       | 2.00         | 2.00         |
| <b>Theory Total:</b>    |                                                                 | <b>15.00</b> | <b>15.00</b> |
| NE 204                  | Introduction to Nuclear and Radio Chemistry Sessional           | 1.50         | 0.75         |
| NE 244                  | Fundamentals of Heat Transfer and Thermal Engineering Sessional | 3.00         | 1.50         |
| NE 252                  | Nuclear Materials Sessional                                     | 3.00         | 1.50         |
| LANG 202                | Communicative English-II                                        | 3.0          | 1.50         |
| <b>Sessional Total:</b> |                                                                 | <b>10.50</b> | <b>5.25</b>  |
| <b>Term Total:</b>      |                                                                 | <b>25.50</b> | <b>20.25</b> |

### Level- 2, Term-II

| Course Code             | Course Title                                                | Contact Hour | Credits      |
|-------------------------|-------------------------------------------------------------|--------------|--------------|
| NE 207                  | Reactor Theory and Analysis-I                               | 3.00         | 3.00         |
| NE 261                  | Numerical Methods in Nuclear Engineering Analysis           | 3.00         | 3.00         |
| EECE 221                | Electrical and Electronics Technology                       | 3.00         | 3.00         |
| ME 253                  | Engineering Mechanics                                       | 3.00         | 3.00         |
| MATH 209                | Fourier Analysis, Complex Variable and Statistics           | 3.00         | 3.00         |
| GESL 221                | Environment, Sustainability and Law                         | 2.00         | 2.00         |
| <b>Theory Total:</b>    |                                                             | <b>17.0</b>  | <b>17.0</b>  |
| NE 262                  | Numerical Methods in Nuclear Engineering Analysis Sessional | 3.00         | 1.50         |
| EECE 222                | Electrical and Electronics Technology Sessional             | 3.00         | 1.50         |
| ME 254                  | Engineering Mechanics Sessional                             | 1.50         | 0.75         |
| <b>Sessional Total:</b> |                                                             | <b>7.50</b>  | <b>3.75</b>  |
| <b>Term Total:</b>      |                                                             | <b>24.50</b> | <b>20.75</b> |

### Level- 3, Term-I

| Course Code             | Course Title                                         | Contact Hour | Credits      |
|-------------------------|------------------------------------------------------|--------------|--------------|
| NE 301                  | Radiation Detection and Measurement                  | 3.00         | 3.00         |
| NE 305                  | Nuclear Reactor Thermal Hydraulics                   | 3.00         | 3.00         |
| NE 307                  | Reactor Theory and Analysis - II                     | 3.00         | 3.00         |
| NE 317                  | Nuclear Security and Safeguard Engineering           | 3.00         | 3.00         |
| NE 331                  | Automation, Robotics and Liner Control System        | 3.00         | 3.00         |
| GEPM 381                | Project Management and Finance                       | 2.00         | 2.00         |
| <b>Theory Total:</b>    |                                                      | <b>17.00</b> | <b>17.00</b> |
| NE 302                  | Radiation Detection and Measurement Sessional        | 1.50         | 0.75         |
| NE 306                  | Nuclear Reactor Thermal Hydraulics Sessional         | 3.00         | 1.50         |
| NE 318                  | Nuclear Security and Safeguard Engineering Sessional | 1.50         | 0.75         |
| <b>Sessional Total:</b> |                                                      | <b>6.00</b>  | <b>3.00</b>  |
| <b>Term Total:</b>      |                                                      | <b>23.00</b> | <b>20.00</b> |

### Level- 3, Term-II

| Course Code             | Course Title                                  | Contact Hour        | Credits      |
|-------------------------|-----------------------------------------------|---------------------|--------------|
| NE 321                  | Reactor Operation and Safety                  | 3.00                | 3.00         |
| NE 333                  | Reactor Instrumentation and Control           | 3.00                | 3.00         |
| NE 353                  | Mechanics of Materials                        | 3.00                | 3.00         |
| NE 355                  | Fluid Mechanics and Machinery                 | 3.000               | 3.00         |
| GEEM 351                | Engineering Ethics & Moral Philosophy         | 2.00                | 2.00         |
| <b>Theory Total:</b>    |                                               | <b>14.00</b>        | <b>14.00</b> |
| NE 320                  | Industrial Training                           | 4 Wks               | 1.50         |
| NE 334                  | Reactor Instrumentation and Control Sessional | 1.50                | 0.75         |
| NE 354                  | Mechanics of Materials Sessional              | 1.50                | 0.75         |
| NE 356                  | Fluid Mechanics and Machinery Sessional       | 1.50                | 0.75         |
| GERM 352                | Fundamentals of Research Methodology          | 4.00                | 2.00         |
| <b>Sessional Total:</b> |                                               | <b>8.5 + 4 Wks</b>  | <b>5.75</b>  |
| <b>Term Total:</b>      |                                               | <b>22.5 + 4 Wks</b> | <b>19.75</b> |

### Level- 4, Term-I

| Course Code             | Course Title                                          | Contact Hour | Credits      |
|-------------------------|-------------------------------------------------------|--------------|--------------|
| NE 409                  | Nuclear Fuel Cycle and Radioactive Waste Management   | 3.00         | 3.00         |
| NE 417                  | Nuclear Accidents Analysis and Radiological Emergency | 3.00         | 3.00         |
| NE 425                  | Nuclear Reactor Design and Features                   | 4.00         | 4.00         |
| -                       | Elective Course-1                                     | 3.00         | 3.00         |
| -                       | Elective Course-2                                     | 3.00         | 3.00         |
| <b>Theory Total:</b>    |                                                       | <b>16.00</b> | <b>16.00</b> |
| NE 400                  | Final Year Design and Research Project                | 6.00         | 3.00         |
| NE 426                  | Nuclear Reactor Design and Features Sessional         | 3.00         | 1.50         |
| <b>Sessional Total:</b> |                                                       | <b>9.00</b>  | <b>4.50</b>  |
| <b>Term Total:</b>      |                                                       | <b>25.0</b>  | <b>20.50</b> |

### Level- 4, Term-II

| Course Code             | Course Title                                              | Contact Hour | Credits      |
|-------------------------|-----------------------------------------------------------|--------------|--------------|
| NE 415                  | Radiation Interactions, Shielding and Protection          | 3.00         | 3.00         |
| NE 423                  | Nuclear Power Plant Operation and In-core Fuel Management | 3.00         | 3.00         |
| NE 427                  | Nuclear Power Plant Engineering                           | 3.00         | 3.00         |
| -                       | Elective Course-3                                         | 3.00         | 3.00         |
| -                       | Elective Course-4                                         | 3.00         | 3.00         |
| <b>Theory Total:</b>    |                                                           | <b>15.00</b> | <b>15.00</b> |
| NE 400                  | Final Year Design and Research Project                    | 6.00         | 3.00         |
| NE 428                  | Nuclear Power Plant Engineering Sessional                 | 1.50         | 0.75         |
| <b>Sessional Total:</b> |                                                           | <b>7.50</b>  | <b>3.75</b>  |
| <b>Term Total:</b>      |                                                           | <b>22.5</b>  | <b>18.75</b> |

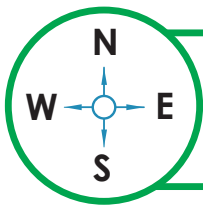


## CONCLUSION

Military Institute of Science and Technology (MIST) is dedicated with a progressive and innovative outlook to pursue in excelling technical education of the modern age. In the meantime, it is established as prestigious academic institute for studies in different fields of engineering and technology for both military and civil officials/ students. MIST runs undergraduate and post graduate level studies including M.Phil and Ph.D program. Students from home and abroad participate in their respective fields of study. MIST has provision for advisory, research and consultancy service including supervisions, material testing and to enter into suitable agreement with any government and non- government organizations for this purpose. MIST intends to establish co-operations with globally reputed universities and strictly maintains yearly academic schedule. Strict adherence to program schedule and in-time completion of the curricula is the hallmark of MIST principles, keeping quality education as our professed goal. MIST has come up through many hurdles. It has accomplished its initial mission and is destined to achieve yet more laurels. Imbued with its motto 'Technology for Advancement', MIST is on a steady program, ardently pursuing to achieve its goal as 'Centre of Excellence' and assume a prestigious position in the educational arena of Bangladesh.







# ROUTE MAP OF MIST TRANSPORT

Not to Scale



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