**Navbar:**

**After logo:**  
Faculty of Cyber Physical Systems

Right: Department of Internet of Things and Robotics Engineering

**Slider Text:** Welcome to the future education systems in IRE

**BDU Cyber Physical System Mission Vision:**

The mission of BDU Cyber Physical Systems is to advance the frontiers of technology by integrating cyber and physical systems to solve complex, real-world problems. We are dedicated to fostering innovation, enhancing security, and improving efficiency through cutting-edge research, interdisciplinary collaboration, and the development of highly skilled professionals. Our vision is to be a global leader in Cyber Physical Systems, driving technological innovation and shaping a future where seamlessly integrated cyber and physical systems enhance the quality of life, ensure sustainable development, and provide robust solutions to the challenges of tomorrow.

**(Details of Software and machine Intelligence) change to –** The Scope of IoT and Robotics Engineering (Make Box Clickable to About Page)

1. To develop innovative technologies, products, and services that cater to the global market's needs and contribute to the growth of international businesses.
2. To contribute to the national market and government sector by driving advancements in diverse sectors while working towards the achievement of industry 4.0 and 5.0 goals through efficient, productive, and sustainable implementations.
3. To foster continuous research, innovation, and lifelong learning, pushing the boundaries of technology by engaging in cutting-edge research and staying updated with the latest advancements, tools, and methodologies to address emerging challenges.
4. To accelerate industry progress with IoT and Robotics integration for enhanced productivity and efficiency.

**Undergraduates Studies:**  
The Faculty of Cyber Physical Systems of this University currently offers a four-year bachelor's (honors) degree under the Department of Internet of Things and Robotics Engineering. This faculty has been established with the aim of creating skilled human resources suitable for the Fourth Industrial Revolution.  
  
**Graduate Studies: Redirect Postgraduate page**

Embark on an advanced academic journey with our Graduate Studies in Cyber Physical Systems at BDU. Our program is designed to equip students with cutting-edge knowledge and practical skills in integrating cyber and physical components to address complex industry challenges.

**Training Programs: Possible to make simple Upcoming page?**

Join us at BDU to advance your career and contribute to the future of Cyber Physical Systems. Apply now to be part of a dynamic and innovative community dedicated to pushing the boundaries of technology.

Achievements:  
Subline: Our latest Achievement 2024

1. BDU's Robo Pulse Competes in IEEE R10 Finals in Bangkok
2. BDU Students Develop Autonomous Rover
3. 1st Runner up Robo Tech Olympiad 2022

1. Details**: Image no: 3**  
BDU's Robo Pulse Competes in IEEE R10 Finals in Bangkok

Team RoboPulse from Bangabandhu Sheikh Mujibur Rahman Digital University - BDU participated in the final stage of the IEEE R10 Robotics Competition for Climate Change 2023 in Bangkok, Thailand!

"Team Robo Pulse" of Bangabandhu Sheikh Mujibur Rahman Digital University is going to Thailand to participate in the World Final Round of Robotics for Climate Change Competition.

In the "Robotics for Climate Change" competition organised by Electrical and Electronics Engineers (IEEE), Bangabandhu Sheikh Mujibur Rahman Digital University (BDU), Bangladesh's IoT and Robotics Engineering Department students Md Taslim Arif, Maruf Hasan, Abu Saleh Muhammad Musa and Abdullah Al Mamun of Team Robo Pulse is going to Bangkok, Thailand, to participate in the World Final Round.

Team Robo Pulse's project "Climate Care: Supporting Communities in Climate Crisis with Water Management" jointly became the champion from Bangladesh along with the BUET team and was honored to be among the 10 teams from Region-10 (Asia Pacific).

The final round of the competition will be held on 9 and 10 December at Chulalongkorn University in Bangkok, Thailand.

BDU "Team Robo Pulse" has invented an artificial intelligence robot for this competition that can detect and remove environmental pollutants from any water body and give necessary advice to maintain the balance of various elements in the water.

Bangladesh's top electronics manufacturer Walton along with IEEE is sponsoring "Team Robo Pulse" to travel to Thailand to participate in the competition.

2. Details**: Image no: 2**

Students from Bangabandhu Sheikh Mujibur Rahman Digital University (BDU) have successfully developed an advanced autonomous rover, "EcoRover," designed for environmental monitoring and management. This innovative project showcases the technical expertise and forward-thinking mindset of BDU's IoT and Robotics Engineering Department. The EcoRover autonomously navigates diverse terrains, collects environmental data, and performs tasks crucial for conservation efforts. Equipped with cutting-edge sensors, artificial intelligence (AI), and machine learning (ML) algorithms, the rover ensures precise and reliable operations.

The EcoRover features advanced navigation capabilities using LiDAR, GPS, and ultrasonic sensors for obstacle detection and path planning, enhanced by AI-driven algorithms for real-time decision-making. It excels in environmental monitoring by measuring air and water quality, temperature, humidity, and other parameters, while also identifying pollutants in water bodies and providing remediation recommendations. Its robust all-terrain design allows it to operate in urban, rural, and remote areas, built with durable materials to withstand harsh conditions.

For communication and control, the rover offers remote monitoring through wireless data transmission to a centralized system and includes a user-friendly interface for remote operation and data visualization. The EcoRover has versatile applications in climate change mitigation, water management, disaster response, and agriculture, providing valuable data for climate research, environmental assessments, and agricultural productivity.

Developed with support from Bangladesh’s leading electronics manufacturer Walton and in collaboration with industry experts and academic mentors from BDU, the EcoRover will be showcased at various national and international platforms. The development team plans to enhance its capabilities further, integrating more advanced AI features and expanding its environmental monitoring functions. This project underscores BDU's commitment to fostering innovation, research, and practical problem-solving skills among its students, preparing them to tackle future challenges with cutting-edge technology.

3. Details**: Image existing in web**

In 2022, a team from Bangabandhu Sheikh Mujibur Rahman Digital University (BDU) achieved the prestigious accolade of 1st Runner-Up in the Robo Tech Olympiad. The competition, renowned for its rigorous challenges and innovation in robotics, saw BDU's team demonstrate exceptional technical skill and problem-solving abilities. Led by dedicated students from the IoT and Robotics Engineering Department, the team showcased their expertise in designing and programming robots to meet complex tasks and challenges presented during the Olympiad. Their achievement not only highlights the high caliber of education and mentorship provided at BDU but also underscores the university's commitment to nurturing talent in emerging technologies. The accolade further solidifies BDU's reputation as a leading institution fostering innovation and excellence in robotics and related fields, setting a benchmark for future competitions and inspiring students to continue pushing the boundaries of technological innovation.

Upcoming Activity:

Sub Line: Upcoming Activities at Bangabandhu Sheikh Mujibur Rahman Digital University (BDU)

1. IRAB Education Expo 2024 (Image): 4  
Date: 22 June

**Text:** Bangabandhu Sheikh Mujibur Rahman Digital University (BDU) is excited to host the IRAB Education Expo 2024 from August 15-17, 2024, on the BDU campus. This premier event will bring together students, educators, and industry professionals to explore the latest advancements in education, technology, and research. The Expo will feature keynote speeches from esteemed speakers in academia and industry, discussing the future of education and the transformative role of technology. Topics will include digital transformation in education, the impact of IoT and robotics, and emerging trends in educational technology.

2. IoT Present Cultural Night (Image: 5)  
Date: 10 June  
Bangabandhu Sheikh Mujibur Rahman Digital University (BDU) is thrilled to announce the upcoming IoT Present Cultural Night, a vibrant celebration of culture, technology, and community. This special event will take place on July 30, 2024, at the BDU campus, bringing together students, faculty, and guests for an evening of entertainment and cultural exchange.

3. IRE Fest – 2024 (Image: 6)

Date: 11 June

Bangabandhu Sheikh Mujibur Rahman Digital University (BDU) proudly presents IRE Fest 2024, an exciting and comprehensive festival celebrating innovation, research, and education. Scheduled to take place from September 20-22, 2024, on the BDU campus, this event will gather students, researchers, educators, and industry professionals to showcase groundbreaking advancements and foster collaboration across various fields.

4. Robo Tech Olympiad 2024 (Image: 7)

Date: 7 June

Bangabandhu Sheikh Mujibur Rahman Digital University (BDU) is excited to announce the Robo Tech Olympiad 2024, a premier robotics competition that brings together talented students and enthusiasts from across the nation to showcase their skills and innovation in robotics. This eagerly anticipated event will take place on October 15-17, 2024, at the BDU campus, promising three days of intense competition, learning, and collaboration.

Latest News

Latest News at Bangabandhu Sheikh Mujibur Rahman Digital University

1**. মাননীয় প্রধানমন্ত্রীর শিক্ষা ও সংস্কৃতিবিষয়ক উপদেষ্টার সঙ্গে বিডিইউ উপাচার্যের সৌজন্য সাক্ষাৎ**  
Image: 8  
মাননীয় প্রধানমন্ত্রীর শিক্ষা ও সংস্কৃতিবিষয়ক উপদেষ্টার সঙ্গে বিডিইউ উপাচার্যের সৌজন্য সাক্ষাৎমাননীয় প্রধানমন্ত্রীর শিক্ষা ও সংস্কৃতিবিষয়ক উপদেষ্টা ড. কামাল আবদুল নাসের চৌধুরীর সঙ্গে সৌজন্য সাক্ষাৎ করেছেন বঙ্গবন্ধু শেখ মুজিবুর রহমান ডিজিটাল ইউনিভার্সিটি, বাংলাদেশ এর মাননীয় উপাচার্য অধ্যাপক ড. মুহাম্মদ মাহফুজুল ইসলাম, পিইঞ্জ।

মঙ্গলবার (২১ মে) মাননীয় প্রধানমন্ত্রীর শিক্ষা ও সংস্কৃতিবিষয়ক উপদেষ্টার কার্যালয়ে এ সৌজন্য সাক্ষাৎ করেন তিনি।

এ সময় বঙ্গবন্ধু শেখ মুজিবুর রহমান ডিজিটাল ইউনিভার্সিটি, বাংলাদেশ এর মাননীয় উপ-উপাচার্য অধ্যাপক ড. মো: মাহবুবুল আলম জোয়ার্দার ও মাননীয় ট্রেজারার অধ্যাপক ড. মো: আনোয়ার হোসেন উপস্থিত ছিলেন।

এ সময় মাননীয় উপাচার্য অধ্যাপক ড. মুহাম্মদ মাহফুজুল ইসলাম, পিইঞ্জ বিশ্ববিদ্যালয়ের মাস্টার প্ল্যান,কারিকুলাম,একাডেমিক কার্যক্রমসহ সার্বিক বিষয়ে মাননীয়

শিক্ষা ও সংস্কৃতিবিষয়ক উপদেষ্টা ড. কামাল আবদুল নাসের চৌধুরীরকে অবহিত করেন।

মাননীয় উপদেষ্টা বিশ্ববিদ্যালয়ের সার্বিক অগ্রগতিতে সন্তোষ প্রকাশ করেন

2. **New Course Offering: Software Engineering at BDU (Image Existing)**  
Bangabandhu Sheikh Mujibur Rahman Digital University (BDU) is thrilled to announce the launch of a new course in Software Engineering, aimed at equipping students with comprehensive knowledge and practical skills essential for thriving in the fast-evolving field of software development.

Course Overview:

1. Core Subjects:

* Fundamentals of Software Engineering: Introduction to the principles and methodologies of software engineering, covering the entire software development lifecycle.
* Programming Languages: In-depth study of popular programming languages such as Java, Python, and C++, focusing on writing efficient and effective code.
* Software Design and Architecture: Exploration of software design patterns, architectural styles, and best practices for building scalable and maintainable systems.

2. Advanced Topics:

* Software Testing and Quality Assurance: Techniques and tools for ensuring the reliability and quality of software products through rigorous testing and validation processes.
* Agile Methodologies: Emphasis on Agile frameworks like Scrum and Kanban, promoting adaptive planning, iterative development, and continuous improvement.
* DevOps and Continuous Integration/Continuous Deployment (CI/CD): Understanding the integration of development and operations, automation of software delivery, and deployment pipelines.

3. Practical Experience:

* Hands-On Projects: Real-world projects and case studies that enable students to apply theoretical knowledge to practical scenarios, fostering critical thinking and problem-solving skills.
* Internships and Industry Collaborations: Opportunities for students to gain practical experience through internships with leading tech companies and collaborative projects with industry partners.

4. Career Opportunities:

* Job Readiness: The course is designed to prepare students for successful careers in software development, systems analysis, software project management, and other related fields.
* Networking and Mentorship: Access to a network of industry professionals, alumni, and mentors to guide students in their career paths and professional development.
* The Software Engineering course at BDU aims to create proficient software engineers who are well-versed in the latest technologies and methodologies, ready to meet the demands of the global job market. Enrollment is now open, and we invite all aspiring software engineers to join this exciting new program and embark on a journey towards a successful career in software engineering.

3. **IRE Department Successfully Completes Annual Picnic (Image: 9)**

The Internet of Things and Robotics Engineering (IRE) Department at Bangabandhu Sheikh Mujibur Rahman Digital University (BDU) recently organized a successful annual picnic, creating a memorable experience for students, faculty, and staff. Held on June 15, 2024, at the picturesque Gazipur National Park, the event was a delightful blend of relaxation, team-building activities, and fun.

Participants enjoyed a day filled with various recreational activities, including outdoor games, a nature hike, and a boat ride. The picnic provided an excellent opportunity for everyone to unwind, socialize, and strengthen the sense of community within the department.

The event also featured a delicious buffet lunch with a variety of local and international cuisines, ensuring that everyone's taste preferences were catered to. The IRE Department's faculty members organized a series of team-building exercises that encouraged collaboration, problem-solving, and camaraderie among students and staff.

The success of the annual picnic highlights the department's commitment to fostering a balanced and supportive environment for both academic and extracurricular activities. The IRE Department at BDU continues to prioritize the well-being and holistic development of its community, ensuring that students and staff alike have opportunities to bond, relax, and create lasting memories.

**Industry Collaboration:**  
Sub Text: BDU's IRE Department fosters robust industry collaborations to enhance learning, promote innovation, and provide valuable opportunities for students and faculty.

About Page

Department of Internet of Things and Robotics Engineering in BDU  
**Sub Text:** The department is dedicated to providing a dynamic learning environment that nurtures creativity, critical thinking, and problem-solving skills among our students.

Mission and Vision

Our mission is to provide a dynamic learning environment that cultivates creativity, critical thinking, and problem-solving skills among students. We aim to deliver a rigorous curriculum encompassing sensor networks, embedded systems, artificial intelligence, machine learning, control systems, and robotics algorithms. Through theoretical coursework, hands-on laboratory sessions, and real-world projects, we equip students with both theoretical knowledge and practical expertise in IoT and Robotics Engineering. We are committed to maintaining industry relevance through faculty expertise, collaboration with industry partners, and participation in national and international research collaborations. Our goal is to foster innovation, entrepreneurship, and lifelong learning among students, preparing them to contribute to global and national markets with sustainable technological advancements and solutions.

To be a globally recognized leader in IoT and Robotics Engineering education and research, empowering students to innovate and solve complex challenges through interdisciplinary knowledge and cutting-edge technology. To become a leading center of excellence in IoT and Robotics Engineering, renowned for our world-class research, exceptional graduates, and transformative impact on industry and society. We envision a future where our graduates are at the forefront of technological innovation, leading the way in the development of intelligent and interconnected systems that enhance efficiency, sustainability, and quality of life.

Chairman’s Talk:

Explore the Future of Technology with IRE at BDU

The department is trying to realize both the government's and this university's ambition for a "smart" Bangladesh. We want our graduates to be entrepreneurs as well as innovators who contribute to our communities and the economy. Cocurricular activities, programming competitions, software and hardware projects, workshops, training opportunities, industrial attachments, and research projects are all available to the department's students. We have experienced and well-qualified faculty in this field. For maintaining a cordial and healthy teacher-student relationship, a pleasant and competitive environment exists here. I invite you to look around and learn more about our department, undergraduate programs, faculty members, modern laboratories, and the numerous activities that take place in the IRE department. Continue Reading..  
  
Samsuddin Ahmed

Assistant Professor and Chairman

Department of Internet of Things and Robotics Engineering (IRE)

Email: samsuddin0001@bdu.ac.bd

**What path will you take?**

The Department of Internet of Things and Robotics Engineering (IRE) offers diverse paths tailored to your interests and career goals.

1. **Advanced Programming Languages in IRE (Image existing)**

In the Department of Internet of Things and Robotics Engineering (IRE) at Bangabandhu Sheikh Mujibur Rahman Digital University, we offer an in-depth course on Advanced Programming Languages designed to equip students with the skills and knowledge needed to excel in the rapidly evolving tech industry. This course covers a wide range of advanced programming concepts and languages essential for developing complex IoT and robotics systems.

Course Highlights:

1. In-Depth Language Study:

* Python: Advanced topics such as machine learning libraries (TensorFlow, Keras), data analysis, and automation.
* C++: Focus on memory management, object-oriented programming, and real-time system development.
* Java: Concurrency, network programming, and enterprise-level application development.
* JavaScript: Advanced concepts in web development, including Node.js, React, and asynchronous programming.

2. Specialized Programming Paradigms:

* Functional Programming: Languages like Haskell and Scala, emphasizing immutable data and first-class functions.
* Concurrent and Parallel Programming: Techniques and tools for writing efficient, multi-threaded applications.
* Scripting Languages: Using languages like Ruby and Perl for automation, rapid prototyping, and text processing.

3. Practical Applications:

* Embedded Systems Programming: Writing low-level code for microcontrollers and embedded devices.
* IoT Development: Creating robust and scalable applications for IoT ecosystems.
* Robotics Algorithms: Implementing complex algorithms for robot control, navigation, and perception.

4. Tools and Frameworks:

* Development Environments: Utilizing IDEs and tools like Visual Studio Code, Eclipse, and IntelliJ IDEA.
* Version Control: Mastering Git for collaborative development and code management.
* Testing and Debugging: Advanced techniques for ensuring code quality and reliability.

By engaging with these advanced programming languages and techniques, students in the IRE department are prepared to tackle the challenges of modern technology development and drive innovation in IoT and robotics.

2. **Software and Machine Integration in IRE (image: 10)**

In the Department of Internet of Things and Robotics Engineering (IRE) at Bangabandhu Sheikh Mujibur Rahman Digital University, we emphasize the seamless integration of software and hardware to create sophisticated, intelligent systems. Our curriculum focuses on equipping students with the skills to design, develop, and implement solutions that harness the power of both software and machines.

Course Highlights:

1. Embedded Systems Programming:

* Microcontrollers and Microprocessors: Understanding the architecture and programming of devices such as Arduino, Raspberry Pi, and ARM-based systems.
* Real-Time Operating Systems (RTOS): Learning to develop and manage software that interacts with hardware in real-time.

2. Robotics Software Development:

* Robot Operating System (ROS): Mastering ROS for developing robot applications, including sensor integration, control algorithms, and communication.
* Simulation Tools: Using Gazebo, V-REP, and other simulation environments to model, test, and refine robotic systems before deployment.

3. Machine Learning and AI Integration:

* AI Algorithms: Implementing machine learning and artificial intelligence algorithms for tasks such as vision processing, decision making, and autonomous navigation.
* Edge Computing: Developing AI solutions that run on edge devices to provide real-time processing and reduce latency.

4. Software Development for IoT:

* IoT Protocols: Understanding and implementing communication protocols such as MQTT, CoAP, and HTTP/2.
* Cloud Integration: Connecting IoT devices to cloud services for data storage, processing, and analytics using platforms like AWS IoT, Google Cloud IoT, and Microsoft Azure IoT.

5. Advanced Control Systems:

* Feedback Control: Designing and implementing PID controllers and advanced control algorithms for managing system behavior.
* Automation Software: Using PLCs (Programmable Logic Controllers) and SCADA (Supervisory Control and Data Acquisition) systems for industrial automation.

6. Tools and Frameworks:

* Development Environments: Utilizing IDEs and tools such as MATLAB, Simulink, LabVIEW, and Eclipse for software development and system design.
* Version Control and Collaboration: Mastering Git and collaborative platforms like GitHub and GitLab for efficient team-based development.

By integrating software and hardware education, students in the IRE department are prepared to create innovative solutions that leverage the strengths of both domains. This comprehensive approach ensures that graduates are capable of addressing complex challenges in IoT, robotics, and related fields, driving progress and innovation.

3. **Training Courses in the IRE Department ( Image: 11)**

The Department of Internet of Things and Robotics Engineering (IRE) at Bangabandhu Sheikh Mujibur Rahman Digital University offers a variety of specialized training courses designed to enhance students' practical skills and theoretical knowledge in key areas of IoT and robotics. These courses provide hands-on experience and in-depth understanding, preparing students for careers in cutting-edge technology fields.

1. Advanced Programming and Software Development:

* Course Overview: This course covers advanced programming techniques in languages such as Python, C++, and Java, with a focus on developing efficient, scalable, and robust software solutions.
* Key Topics: Data structures, algorithms, software design patterns, concurrent programming, and software testing.

2. Embedded Systems and Microcontroller Programming:

* Course Overview: Focused on the design and programming of embedded systems using popular microcontrollers like Arduino and Raspberry Pi.
* Key Topics: Microcontroller architecture, interfacing sensors and actuators, real-time operating systems (RTOS), and embedded C programming.

3. Internet of Things (IoT) Systems Design:

* Course Overview: This course provides comprehensive training on building IoT systems, including device programming, network communication, and cloud integration.
* Key Topics: IoT protocols (MQTT, CoAP), edge computing, IoT security, and data analytics.

4. Robotics and Automation:

* Course Overview: Aimed at developing skills in designing, programming, and controlling robotic systems, including autonomous robots and industrial automation.
* Key Topics: Robot Operating System (ROS), robotic kinematics, sensor integration, control systems, and automation software (PLCs, SCADA).

5. Machine Learning and Artificial Intelligence for Engineers:

* Course Overview: This course introduces machine learning and AI techniques with practical applications in IoT and robotics.
* Key Topics: Supervised and unsupervised learning, neural networks, computer vision, natural language processing, and AI deployment on edge devices.

6. Cybersecurity for IoT and Robotics:

* Course Overview: Training on protecting IoT devices and robotic systems from cyber threats and ensuring data integrity and privacy.
* Key Topics: Cybersecurity principles, encryption techniques, secure communication protocols, and vulnerability assessment.

7. Cloud Computing and Big Data Analytics:

* Course Overview: Focused on leveraging cloud platforms for IoT data storage, processing, and analysis, as well as big data technologies.
* Key Topics: Cloud services (AWS, Azure, Google Cloud), big data frameworks (Hadoop, Spark), and data visualization.

8. Control Systems Engineering:

* Course Overview: Training on designing and implementing control systems for various engineering applications, emphasizing feedback and automation.
* Key Topics: PID controllers, state-space analysis, digital control systems, and real-time control applications.

9. Communication Networks and Protocols:

* Course Overview: Comprehensive training on networking concepts and protocols essential for IoT and robotic systems.
* Key Topics: Network architecture, wireless communication, TCP/IP, Bluetooth, Zigbee, and LoRaWAN.

10. Professional Development and Soft Skills:

* Course Overview: Enhancing students' professional skills, including project management, technical writing, and effective communication.
* Key Topics: Project planning, teamwork, leadership, presentation skills, and career development strategies.

Each training course in the IRE department is designed to provide students with the knowledge and skills necessary to excel in the dynamic fields of IoT and robotics. Through a combination of theoretical instruction and practical experience, these courses ensure that students are well-prepared for the challenges and opportunities in their future careers.  
  
  
**Building Gallery**

Welcome to the Building Gallery of Bangabandhu Sheikh Mujibur Rahman Digital University (BDU). Our campus is designed to foster an environment of innovation, collaboration, and learning.  
  
**Image Include ALL**

**Academic Page**

**Curriculum for IoT and Robotics Engineering (IRE)**

The Department of Internet of Things and Robotics Engineering (IRE) at Bangabandhu Sheikh Mujibur Rahman Digital University offers a comprehensive and dynamic curriculum designed to equip students with the knowledge and skills necessary to excel in the rapidly evolving fields of IoT and robotics. Our curriculum combines theoretical coursework, hands-on laboratory sessions, and real-world projects to provide a well-rounded educational experience

Objectives:

IRE is dedicated to developing technological expertise among students by equipping them with advanced knowledge in IoT and robotics. This includes fostering proficiency in programming, embedded systems, artificial intelligence, and control systems. Emphasizing hands-on learning, the curriculum integrates practical experience through laboratory sessions and real-world projects, encouraging innovation and problem-solving skills. The department prepares students for careers in rapidly evolving tech industries by providing exposure to industry standards, tools, and practices through internships and collaborations. Additionally, the IRE department promotes research and development by engaging students in cutting-edge projects and encouraging continuous learning to stay updated with the latest technological advancements.

Outcome:

CO1: Use a systems approach to design problems;

CO2: Identify and analyze a number of sub-systems commonly used in mechanical design;

CO3: Design such sub-systems using both first principles and according to standard processes;

Content:

The curriculum of the IRE department is designed to provide a comprehensive education in IoT and robotics engineering, encompassing core and specialized courses along with hands-on laboratory sessions.

Undergraduates Studies

Software Engineering -------- **Internet of Things and Robotics Engineering (IRE)**

The Bachelor of Science in IoT and Robotics Engineering program is a comprehensive four-level curriculum designed to equip students with the knowledge and skills needed to excel in the rapidly evolving fields of Internet of Things and robotics. The program starts with a solid foundation in programming, mathematics, data structures, and computer systems, followed by specialized courses that delve into the core concepts of IoT and robotics. Students will gain expertise in electrical circuits, electronics, microcontrollers, sensor technology, robotics dynamics and kinematics, embedded systems, control systems, computer graphics, artificial intelligence, human-machine interaction, and computer vision. The curriculum is further enriched with optional courses, allowing students to tailor their learning to specific interests within the broader field. The program culminates in a capstone project and undergraduate thesis, providing students with hands-on experience and the opportunity to apply their knowledge to real-world challenges.

In addition to the academic curriculum, the program emphasizes soft skills development to enhance students' overall employability. While not mandatory for graduation, students are encouraged to participate in industrial and professional training through audit courses. The program's well-structured and comprehensive approach ensures that graduates are well-prepared for successful careers in the exciting and innovative world of IoT and robotics engineering.

**Notice**

Welcome to the Department of Internet of Things and Robotics Engineering (IRE) at Bangabandhu Sheikh Mujibur Rahman Digital University, Bangladesh. We are excited to announce important updates and upcoming activities for our undergraduate program.

1. Notice for online class extension due to heat wave 25 April PDF- 1

2. Examination Postponement Notice 28 May PDF-2

3. ২০২৩-২৪ শিক্ষাবর্ষে প্রাথমিক ভর্তি নিশ্চিত সংক্রান্ত নোটিশ 4 June PDF-3

4. Class Routine of Department of IRE 2024 06 June PDF-4

Gallery

Welcome to the Building Gallery of Bangabandhu Sheikh Mujibur Rahman Digital University (BDU). Our campus is designed to foster an environment of innovation, collaboration, and learning.

Image All include  
  
 Research

Research and Publication Areas

The Department of Internet of Things and Robotics Engineering (IRE) at Bangabandhu Sheikh Mujibur Rahman Digital University is committed to advancing research and fostering innovation in various domains of IoT and robotics. Our faculty and students actively engage in cutting-edge research projects and contribute to the body of knowledge through publications in reputed journals and conferences.

The Department of IoT and Robotics Engineering (IRE) facilitates environments for the following research and publication areas:

1. Smart Vehicle Accident Prevention and Road Safety System with Real Time Data Acquisition in International Journal of Engineering and Manufacturing (IJEM); Publisher: MECS ,Volume 14 , Issue 3,2024  
link: <https://www.mecs-press.org/ijem/ijem-v14-n3/v14n3-2.html>

2. A review of 2.45 GHz microstrip patch antennas for wireless applications in International Journal of Advances in Applied Sciences (IJAAS) ,Volume 13 , Issue 2,2024

Link: <https://www.researchgate.net/publication/379600261_A_review_of_245_GHz_microstrip_patch_antennas_for_wireless_applications>

3. A Machine Learning Approach for Emotion Classification in Bengali Speech.

Link: <https://thesai.org/Downloads/Volume14No10/Paper_93-A_Machine_Learning_Approach_for_Emotion_Classific>

4. Prediction of Breast Cancer using Traditional and Ensemble Technique: A Machine Learning Approach

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Faculty

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Hi! Have a good day! This is Samsuddin, a passionate learner and enthusiastic researcher. Currently, I am working as an Assistant Professor in the Department of Information and Communication Technology (ICT) at Bangabandhu Sheikh Mujibur Rahman Digital University (BDU), Gazipur, Bangladesh.

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