**BITS Pilani –University at Buffalo (UB) ("UBITS") Dual-Degree Programme FAQ**

**What is the BITS Pilani- University at Buffalo ("UBITS") Dual-Degree Programme?**

BITS Pilani and the University at Buffalo, The State University of New York have partnered to offer an exciting opportunity for students to pursue a unique academic programme. Students can opt to pursue a dual degree programme whereby they can obtain an engineering degree from BITS Pilani <u>and</u> a degree from the University at Buffalo (UB) upon successful completion of the programme requirements in the following areas:

| Discipline | BITS degree | University at Buffalo Degree* |
|---|---|---|
| Mechanical Engineering | B.E. Mechanical | B.S. Mechanical Engineering |
| Electrical and Electronics Engineering | B.E. Electrical and Electronics | B.S. Electrical Engineering |
| Computer Science | B.E. Computer Science | B.S. Computer Engineering |
| Computer Science | B.E. Computer Science | B.S. Computer Science |
| Electronics and Communication Engineering | B.E. Electronics and Communication | B.S. Electrical Engineering |

*All engineering degrees at UB are Bachelor of Science degrees. A Bachelor of Science (B.S.) is the standard degree name for four-year engineering degree programmes at the bachelor's level used by almost all institutions in the United States. You can find more information about UB programmes and their accreditation at: https://engineering.buffalo.edu/home/school/about/accreditations.html

 ** You can find more about the UB computing and engineering majors at

https://engineering.buffalo.edu/home/academics/undergrad/programs.html

**Is the University at Buffalo well-known for its engineering programmes?**

UB is ranked in the top 50 U.S. institutions for its undergraduate and graduate engineering programmes and is a flagship of the SUNY system. The university has a rich history of educating engineers and scientists and includes among its alumni current and former leaders at global companies such as Robin Li, co-founder of Baidu.com; Ashutosh Sharma, former secretary of the Department of Science and Technology of India; Subir Parulekar, senior director of engineering at the Walt Disney Company; Victor Bahl, chief technical officer of Microsoft's Azure; and Christopher Scolese, director of the National Reconnaissance Office of NASA. Learn more about the University at Buffalo School of Engineering and Applied Sciences.

**What are some advantages of pursuing the specified engineering programmes under this UBITS International Collaborative Programme at the University at Buffalo?**

Students who successfully complete all four years of the UBITS International Collaborative dual degree programmes will be eligible to receive degrees from both BITS Pilani and UB. The degrees will be the same as the standard degrees from each institution –students will receive two separate testamurs (transcripts) and degree certificates from each university.

UB, New York State's flagship university and member of the Association of American Universities (AAU), is a world-class university with a worldwide impact. With an enrollment of more than 31,000, including more than 5,000 international students, UB is consistently recognized as one of the world's most exceptional universities, making it a top choice for students and faculty around the globe.

UB's School of Engineering and Applied Sciences (SEAS), founded in 1946, provides an inclusive environment that supports big thinking, creative freedom, and vast possibilities for achievement.

Students in SEAS have access to world-class facilities and laboratories, including an electrical engineering clean room, a digital manufacturing lab, a machine shop with CNC equipment and 3D printers, a motion-base driving simulator, a 24,000-square-foot outdoor UAV research structure, a leading academic supercomputing facility, and so much more.

In addition to UB's vibrant international student clubs, SEAS offers over 45 science and engineering-related clubs and organizations where students can explore ideas, network with SEAS professors and industry professionals, and gain hands-on research experience.

**Are there scholarship opportunities for students pursuing this dual degree programme?**

Yes, Students participating in the UBITS 2+2 Engineering Cohort programme will be eligible for the UB Engineering Cohort Merit Scholarship to University at Buffalo. UB Engineering Cohort Merit Scholarship levels are based upon successful engagement and academic performance in the first 2-year component of the programme at BITS Pilani. All students who transfer to UB will receive a UBITS Scholarship of US$10,000, supplemented by a US$2,000 UBITS Merit Scholarship (total of US$12,000) for each of their two years at UB - this will be reflected in their I-20. In addition, the top 25% of UBITS students, as

determined by BITS and based on their BITS CGPA after the completion of the first two years, will also receive a UBITS Merit Scholarship of US$3,000 for a total scholarship award of US$15,000 per year for two years; this merit scholarship will be awarded in summer 2026, once CGPAs for the first two years are determined.

*** To maintain the scholarship, UBITS students must remain in good academic standing, with a UB GPA of at least 2.0.***

To qualify for these scholarships, students must:

- be fully admitted to University at Buffalo
- major in an engineering discipline at University at Buffalo under UBITS 2+2 International Collaborative Programmes)

## What is the tuition and fee schedule for this programme?

Students will pay the BITS scheduled tuition and fees for the first two years. Once they are admitted into UB, students will pay the UB scheduled tuition and fees for <u>international students</u>. The current tuition and fees per academic year are listed at https://www.buffalo.edu/studentaccounts/tuition-and-fees/fall.non-resident-full-time.html.

Future tuition and fees at University at Buffalo are subject to annual increases of 2 to 4%, as authorized by SUNY and the State of New York.

## What are the degree requirements?

Students will complete the first two academic years at BITS and the following two academic years at the University at Buffalo. Progress and completion of the programme within four years is dependent on satisfactory performance and progress in the courses that the student takes. A four-year plan for the students for each of the programmes (i.e., B.E. Electrical and Electronics + B.S. Electrical Engineering, B.E. Electronics and Communication + B.S. Electrical Engineering, B.E. Computer Science + B.S. Computer Engineering, and B.E. Mechanical + B.S. Mechanical Engineering) is provided below:

| Programme's progression |
|---|
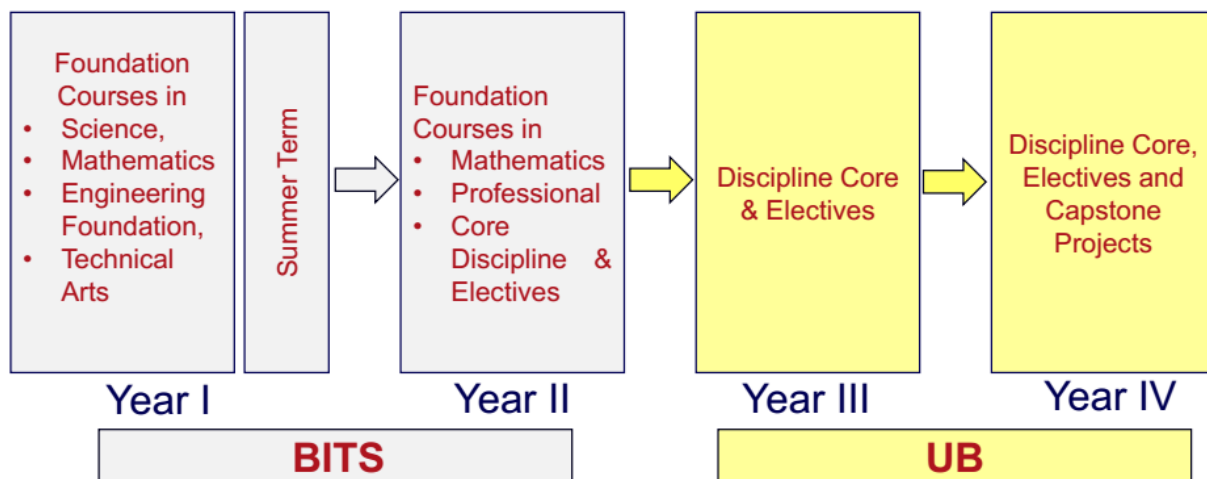
**What should I do to apply to this programme?**

**Procedure to Apply for admission in UBITS International Collaborative Programmes:**

In addition to applying and appearing for BITSAT-2025, candidates have to also apply for admission to BITS-UB giving details of their 12th marks and preferences to different degree programmes offered at Indian campuses of BITS and UB. The prescribed application form for admission, the detailed application procedure will be made available at the BITS Pilani admission website, tentatively on 01-JUN- 2025. The completed application form with the details of their 12th marks and preferences to different degree programmes along with the required application fee has to be submitted online at the BITS Pilani admission website on or before the deadline mentioned on BITS Pilani admission website.

UB faculty and staff will engage with students in the dual degree programme in the first two years through Zoom sessions to ensure students are on track to transition to UB. In the second year, students will then apply as a transfer student to complete UB admission procedures via the UB International Admissions website.

**Does BITSAT score matter in the admission process?**

Applicants who meet the minimum academic requirements will be ranked based on their Final BITSAT score. Offers will be issued to the top ranked applicants down, until places are filled.

**What are the prerequisites to transfer to the University at Buffalo including any English proficiency requirements?**

You are required to provide current evidence of your **English language proficiency** for admission to UB. Students can provide their results in the form of one of these common English language proficiency tests:

Below are the minimum scores to be eligible for consideration for admission to UB's undergraduate programmes. These scores do not guarantee admission. If your scores are lower than those listed in the chart, you may still be considered for admission if you retake the English Language test and submit a passing score.

| TEST | MINIMUM SCORES* |
|---|---|
| **TOEFL (IBT)** (including MyBest scores) **TOEFL Home Edition** | 70 |
| **TOEFL Essentials** | 8.5 |
| **TOEFL (PBT)** and **TOEFL ITP Plus** | 523 |
| **IELTS** and **IELTS Indicator** | 6.0 |
| **PTE Academic or PTE Academic Online** | 50 |

| | |
|---|---|
| **ACT** (English **AND** reading sections) | 18 |
| **SAT I** ERWS | 500 |
| **CAEL** | 70 |
| **CanTEST** | 4.5 |
| **Cambridge English** Proficiency (CPE) | 185 |
| **Cambridge English** Advanced (CAE) | 185 |
| **IB** Higher Level English A Literature | 4 |
| **IB** Higher Level English A Language and Literature | 4 |
| **AS Level or A Level** English or English Language Subject | C |
| **Duolingo English Test (DET)** | 105 |

More information is available here.

**Note:** UBITS students are required to achieve the following sub-section scores on the TOEFL, IELTS, DET, or PTE tests to be placed in the ELI 105 course offered remotely by UB in the first semester of the UBITS Collaborative Programme. Students whose sub-section scores are lower than the sub-section minimums below will be placed in ELI 100, and will take ELI 105 remotely in summer 2026 (to be eligible to enroll in ELI 105, such students must successfully complete ELI 100 with a "C" grade or higher).

| Sub-Section Skill | iBT TOEFL Minimum Sub-Section Score | IELTS Minimum Sub-Section Score | Duolingo English Test (DET) Minimum Sub-Section Score | Pearson Test of English (PTE) Minimum Sub-Section Score |
|---|---|---|---|---|
| Reading | 21 | 6.5 | 120 | 61 |
| Listening | 21 | 6.5 | 115 | 57 |
| Speaking | 23 | 6.5 | 135 | 65 |
| Writing | 24 | 6.5 | 140 | 74 |

Please also note that the students enrolled in the 2+2 UBITS International Collaborative Programme are required to transfer to the UB Campus in USA to complete Year 3 and Year 4 program requirements. In order to progress to the University at Buffalo as part of the BITS-UB International Collaboration Programme, students should have at the end of their first two years a CGPA of at least 5.0, with no BITS course fulfilling a UB degree requirement having a BITS grade below D (grade point 4.0) in such courses. In addition, students must receive passing grades (D grade or better) in courses completed via the UB online mode that serve as prerequisites for other UB degree requirements.s

**When would I have to take the English language proficiency test?**

You should submit scores for one of the eligible English proficiency tests no later than July 31, 2025 (5:00 PM) (extended deadline). TOEFL and IELTS are held regularly in major cities across India. However, in light of the limited time, it is recommended that UBITS applicants take the Duolingo test, which is available on-demand and can be taken at home; official Duolingo test scores can be reported to UB within 2 days. Depending on your current English strength, you may wish to prepare for your test. We recommend starting as soon as possible and giving yourself every chance to do well. More information is available here. More information is available here.

**Will I get one or two degrees from this programme?**

Students who successfully complete all four years of the UBITS International Collaborative dual degree programmes will be eligible to receive degrees from both BITS Pilani and the University at Buffalo (UB). Both BITS Pilani and UB have worked carefully together to align different programme offerings, and each will recognize the study completed at the other institution, enabling completion of requirements for each degree. The degrees will be the same as the standard degrees from each institution - students will receive two separate testamurs (transcripts) and degree certificates, one from each university.

**Can I do undergraduate and graduate degrees with additional years?**

Yes. There are many opportunities for graduate (master's and PhD) study at the University at Buffalo and BITS. Your undergraduate qualification will lead into several options. Engaging in research opportunities with faculty while completing your degree programme at the University at Buffalo can also help you pursue graduate opportunities.

**Is the University at Buffalo and the City of Buffalo a welcoming place for international students?**

The University at Buffalo consistently ranks among the top 25 institutions in the US enrolling the most international students, and takes pride in its diverse community. UB is a welcoming and supportive campus. At UB and in the School of Engineering and Applied Sciences (SEAS), we truly embrace the American principles of inclusion for all people regardless of their race, religion, or country of birth. Our goal is to foster a supportive and open environment where your ideas and intellectual passions are free to grow and flourish. SEAS is home to a highly diverse faculty from many countries. In addition to International Student Services, UB offers a full range of academic, cultural, and wellness support services to help students make the most of their time at UB.

Big-city amenities, small-town charm, and reasonable housing costs have made Buffalo, New York, one of the most desirable and affordable places to live for students. UB's principal North Campus, situated in Amherst, New York, is well-known as one of the safest cities of its size in the US. Here, cutting-edge academic spaces and vibrant student life are surrounded by a 60-acre lake and abundant green spaces.

**What are accommodations options at University at Buffalo?**

It is recommended that UBITS students reside on campus to take fullest advantage of campus opportunities. At UB, living on campus is strongly encouraged, and applying for on-campus housing is fast and easy. All you need to do is answer a few simple questions and pay a $300 deposit. Everything is online and the Campus Living staff are available via phone, email or live chat if you have any questions along the way. The earlier you apply, the earlier your selection time will be during the Campus Living self-selection process. UBITS students may also access affordable off-campus housing options located near UB.

**What happens if I can't transfer to the University at Buffalo at the end of year two?**

The UBITS International Dual Degree Programme is structured to include two years of study at BITS Pilani, followed by two years at the University at Buffalo (UB), culminating in the award of degrees from both institutions. However, if you are unable to proceed to UB due to compelling reasons, the following alternatives may be considered at the sole discretion of BITS Pilani:

**a)** BITS Pilani may, at its sole discretion, reassign you to a new programme depending on your BITSAT-2025 score and its position in the regular merit list prepared for students admitted to First Degree programmes through BITSAT-2025 (and not through the BITS-UB International Dual Degree route).

**b)** BITS Pilani may certify your completed coursework for credit transfer to another recognized institution, which may consider it towards awarding a degree, subject to their norms.

**c)** You may be offered the option to continue and complete your degree at the BITS Pilani Dubai Campus. In such cases, you will be required to pay the fees applicable to the Dubai Campus.

**What are the academic standards I need to meet at the University at Buffalo?**

UB and SEAS evaluate student performance and monitor student progress via two independent academic review processes. Both reviews are conducted at the end of the fall and spring semesters and focus on a student's progress towards satisfying degree requirements. The relevant policies are outlined below.

The UB Office of Undergraduate Education performs a review that focuses on a student's UB GPA (all coursework completed at the University at Buffalo).

Students with cumulative and most recent semester UB GPAs of at least 2.0 are considered to be in UB academic good standing. If these conditions are not met, then the student is placed on UB academic warning, UB academic probation, or is dismissed from UB. The academic standing is based on (1) how long the student has been at UB, (2) their previous academic history, and (3) the extent to which their cumulative GPA is below the standard for UB academic good standing.

Students placed on UB academic probation are not eligible to participate in university activities. In addition, students on UB academic probation may be subject to an advisement service indicator – a mandatory discussion with an academic advisor to help build an effective academic strategy before the student may complete any further registration activity.

Students dismissed from UB are not permitted to register for future fall or spring semester classes at UB. A dismissed student may appeal the dismissal in writing to the Dean of Undergraduate Education.

The SEAS Office of Academic Affairs performs a review that focuses on a student's UB Technical GPA (TGPA). The TGPA is based on engineering, math, and science courses taken at UB.

Students with a cumulative UB technical GPA (CTGPA) and most recent semester technical GPA (STGPA) of at least 2.0 are considered to be in SEAS academic good standing. If these conditions are not met, then the student is placed on SEAS academic notice or is dismissed from SEAS. The SEAS academic standing is based on (1) how long the student has been at UB, (2) their previous SEAS academic standing, (3) their CTGPA, and (4) their STGPA.

After the first SEAS academic notice, students receive a hold that limits their ability to register in courses until they satisfy a required advisement session that requires them to reflect on their performance and develop a strategy to get back into good academic standing.

Students dismissed from SEAS are removed from the SEAS major and dropped from any SEAS courses they are enrolled in for the following fall or spring semester. Students may petition for immediate reinstatement to the SEAS Senior Associate Dean for Academic Affairs, based upon legitimate extenuating circumstances. Students dismissed from SEAS are encouraged to work with BITS's and UB's academic advisors to explore other majors.

**What about Practice School? Would I have the option to take internships at UB? How UB offers University-Industry exposures for UG students?**

Engineering programmes at the University at Buffalo include a required capstone design experience that spans the senior year (fall and spring semesters). Students work in teams to tackle a real-world engineering design problem. It is common for students to work with industry partners on senior design projects. The experiences leverage the technical and professional skills (e.g., teamwork, communication, creativity, critical thinking, problem solving, leadership) students acquire over the span of the four-year programme. At the end of the spring semester, project teams present their work in various forums. Below are programme-specific details.

*How do the computer science and computer engineering degrees at UB differ?*

Computer and information technologies are critical to the nation's technological infrastructure and competitive advantage in the knowledge-based global economy of the

21st century. These technologies have enabled discoveries and inventions in diverse fields of study, and have transformed society and our daily lives in dramatic ways.

Computer Science (CS) is a systematic study of the concepts, foundations and applications of software, hardware, and intelligent systems. Typical subjects include: programming languages, data structure, algorithms, computer organization, operating systems and machine learning.

Computer scientists are engaged in understanding the algorithmic complexity of problems and the limits of computability, automating human intelligence, providing ubiquitous access to information, or designing secure and effective software, computer, and communication systems. Computer scientists work in every sector of industry, government, and society in general.

Computer engineers are engaged in designing a wide range of devices, systems, software, and services. They design the control systems for automated production lines in industry, create software for digital telephone switching systems, and develop the installation of a local area network (LAN). Thus, computer engineers work in every sector of industry, government, and society in general.

### *Computer Science*

The final year of study is devoted to two capstone experiences – software engineering and hardware / software integrated design – as well as elective courses in topics such as software systems, networking, and artificial intelligence.  The two capstone experiences expose students to developing semester long projects in design teams of 3 to 4 members working on real world projects from conception to implementation.  In the computer science programme students examine in detail the software development process. Topics include software life-cycle models; architectural and design approaches; various techniques for systematic software testing; coding and documentation strategies; project management; customer relations; the social, ethical, and legal aspects of computing; and the impact of economic, environmental, safety, manufacturability, and sustainability factors on design.

### *Computer Engineering*

The computer engineering programme culminates in a year-long capstone design experience. Students complete CSE 450 Hardware/Software Integrated Systems Design 1 during the fall semester and CSE 453 Hardware/Software Integrated Systems Design 2 during the spring semester. Students work in design teams of 3 to 8 members to solve a complex problem by designing and implementing a fully integrated hardware/software system. Student teams select a project from a list of available projects. These projects are real projects with actual clients. The projects are often socially relevant, and the clients are real (we have working relationships with several agencies including K-12 school districts, health care facilities, industry partners, DOD contractors, researchers, and so on). In working on these projects, students interact with a client to learn and specify the project requirements. They then embark on the design process. Each team specs, designs, builds, tests, and fully implements their project. Emphasis is placed on ensuring that the project works, and works reliably over the expected life of the product. Students overcome many

challenges during the build and test phase. The open-ended scope of the projects provides a real-life experience with many trials and tribulations.

### *Electrical Engineering*

The electrical engineering capstone design experience spans the senior year. Students enroll in EE 408 during the fall semester and EE 494 during the spring semester. Projects are selected from faculty areas of expertise with input from industrial partners. Several faculties with collective expertise in Signals Communications and Networking, Energy Systems, Optics and Photonics, and Solid State Electronics contribute to the course. Design projects are open-ended with design constraints that include use of industry standards, socio-economic, societal/political, and environmental impact considerations. The technical information gathered over the course of the undergraduate curriculum is relied upon to complete the major design experience along with instruction on additional topics relevant to the capstone experience. The semester culminates with a group presentation delivered to the instructor, departmental constituents, and industry sponsors.

### *Mechanical Engineering*

The mechanical engineering design and practice sequence culminates in the senior year with Design Process and Methods (MAE 451) and Senior Design Project (MAE 494). Students work in small groups to solve a real design problem during the two-course sequence, which is guided by an industry or faculty sponsor. The design project is started in MAE451, where students focus on design processes involving idea conception, decision making, conceptual design, and optimization. Students complete the project in MAE494, which typically involves design documentation, engineering analysis, physical prototyping, and presentation of the final design through oral and written communication. Projects are typically industry-based but may also include faculty sponsored and student club-oriented projects (e.g., ASME, SAE).

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