



BBU
Build Bright
University

មហាវិទ្យាល័យវិទ្យាសាស្ត្រនិងបច្ចេកវិទ្យា Faculty of Science and Technology

Master Program

M.Sc.

Master of Science

✓ in Information Technology



We care on building your knowledge and skills

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Master's Degree Program

» Faculty of Science and Technology

» Master of Science (M.Sc.)

✓ in Information Technology



ប្រកសិក្សាដើម្បីទទួលបានសញ្ញាបត្រពីសាកលវិទ្យាល័យយៀលប្រាយ
Pathway to Build Bright University Degree



Master's Degree

Year 2

Year 1

The **Master of Science (M.Sc.) in Information Technology** program requires a minimum of two years study. Applicants must hold a bachelor's degree in a relevant subject or hold a bachelor's degree in an unrelated subject and have relevant professional experience.

Master Program Offered

Faculty of Science and Technology offers Master of Science (M.Sc.) in Information Technology program as below:

- by Coursework plus Research
- by Research

Master of Science (M.Sc.) in Information Technology Program

Program Description

With the recent rapid advances in technology encompassing every aspect of daily lives of human beings, the IT career path is one of the best remaining guarantees of a job for life as IT offers transferable skills, and the IT professionals can practice anywhere in the world. For many, the chance to travel and work at the same time is a real motivator, opening up fresh possibilities for an enjoyable and varied international working life. The Master of Science in Information Technology is a door opener for graduates or IT professionals who are looking to expand their expertise in the IT industry. The program will boost the career advancement prospects and provide a competitive advantage over recent graduates.

Program Objectives

The objectives of the Master of Science (M.Sc.) in Information Technology are as below:

- To equip students with an integrated set of skills that will allow them to develop their professional careers in information technology and data science.
- To equip students with theoretical and practical knowledge that is necessary to enable them to design and develop complex computer applications, Mobile Applications, Network Technology and Cyber Security.
- To prepare students to embrace future developments in the field that has a demonstrated professional relevance.

- To provide the latest skills and build the future capabilities of the students using world-class technology.
- To develop skills to work with higher end applications in internet technologies and managerial ability to analyze, design, develop and maintain software, mobile, data analytic, and network development.

Admission Requirements

The **Master of Science (M.Sc.) in Information Technology** program requires a minimum of two years study. Applicants must hold a bachelor's degree in a relevant subject or hold a bachelor's degree in an unrelated subject and have relevant professional experience.

Enrollment Procedure

- The students have to submit their completed application forms along with necessary documents including photographs to the Registration Office of the university.
- They have to make necessary payment of fees for admission and undertake the entrance examination as stipulated by the Ministry of Education, Youth and Sport from time to time.

Duration, Semester and Credit

- Two academic years
- Four semesters
- Total 45 credits



Teaching Methodology

Depending on the nature and requirement of the specific course, in general, the following methods are adopted for teaching, learning and research that are focused on the learning outcomes of students:

- Lecture-cum-discussion method
- Group and individual experimental laboratory works
- Individual project assignment and presentation
- Group and individual problem solving, exercises and quizzes

Methods adopted for each specified course in Master of Science in Information Technology program are focused on student centered approach.



Program Structure

The Master of Science (M.Sc.) in Information Technology program is of two years duration with four semesters and 45 credits in total. Students have the two options to study, i.e., **(1) Coursework plus Research** and **(2) Research**. All the students are required to complete 33 credits of coursework consisting of 11 Core Common Courses in the first three semesters of the program. In the fourth semester, students opting Coursework plus Research have to study two Core Major Courses (6 credits) and write a Research Project (6 credits) in the fourth semester besides the study of 11 Core Common Courses. But the students having

Research option have to write a **Master Thesis**, which consists of 12 credits, in the fourth semester along with the study of 11 Core Common Courses.

Core Common Courses

All the students of the Master of Science (M.Sc.) in Information Technology program are required to study 11 Core Common Courses in the first three semesters. The details of the courses are as below:

Core Common Courses (33 Credits)		
Code	Course Title	Credits
ITC316	High Speed Network	3
MSC001	.NET Developer	3
ITC304	Advanced Routing	3
MSC002	Full-Stack Developer	3
MSC003	Advanced Switching and Voice over IP	3
MSC004	Mobile App Developer	3
MSC005	Cloud Architecture	3
MSC006	Distributed Database Administration	3
MIT305	Data Warehousing and Data Mining	3
MSC007	Data Science and Machine Learning	3
RMD310	Research Methodologies	3
Cumulative Credits		33



Options for Studying in the Master of Science in Information Technology Program

There are two options for the students to study in the program. They can select any one of the options as below:

- (1) *Coursework plus Research*
- (2) *Research*

- **Master of Science in Information Technology by Coursework plus Research**

Students after successfully completing the study of 11 Core Common Courses in the first three semesters of the program have to study two Core Major Courses and write a Research Project in the fourth semester. The detail course structure is as below:

Master of Science (M.Sc.) in Information Technology		
Core Major Courses (12 Credits)		
Code	Course Title	Credits
MSC008	Cyber Security Analyst	3
MSC009	Deep Learning and Artificial Intelligence (AI)	3
RPJ320	Research Project for Information Technology	6
Cumulative Credits		12
Total Cumulative Credits		45



- **Master of Science in Information Technology by Research**

Students after successfully completing the study of 11 Core Common Courses in the first three semesters of the program have to write a Master Thesis in the fourth semester. The detail structure of the Master Thesis is as below:

Core Major Courses (12 Credits)		
Master Thesis for Information Technology		
Code	Course Title	Credits
MTR301.1	Research Proposal Development and Defense	3
MTR301.2	Conducting Research / Industry-Based Work Project	3
MTR301.3	Thesis Preparation and Pre-Defense	3
MTR301.4	Thesis Completion and Final Defense	3
Cumulative Credits		12
Total Cumulative Credits		45



Final Examination

Students in the Master of Science (M.Sc.) program by Coursework plus Research are required to take the final examination on two Core Major Courses at the end of the final semester. Along with the final examination, students are required to write a Research Project (6 credits) in Information Technology as per the separate guidelines of the faculty under the guidance of a supervisor.

Requirements for Graduation

To qualify for the degree the **Master of Science (M.Sc.) in Information Technology by Coursework plus Research** a student has to fulfill the following criteria:

- i. Successful Completion of all courses of the program
- ii. Successful Completion of Research Project
- iii. Obtain the Total Grade Point Average (GPA) of at least 2.5.

To qualify for the degree of **Master of Science (M.Sc.) in Information Technology by Research**, a student has to fulfill the following criteria:

- i. Successful Completion of all courses of the program
- ii. Successful Completion of Master thesis:
 - Research Proposal
 - Conducting Research
 - Thesis Preparation and Pre-Defense
 - Thesis Completion and Final Defense
- iii. Obtain the Total Grade Point Average (GPA) of at least 2.5.



Evaluation Procedure

The following methods of assessment shall be followed to focus on the learning outcomes of the students:

i. Ongoing Assessment - 65%

- a. Class Assignment - 40% (Group and Individual): quizzes, oral presentations and contributions, critical essays, peer lessons, and video observation
- b. Home Assignment - 25% (Individual)



ii. Final Assessment - 35% (Individual):

Semester paper/ Major assignment (based on research on a specific assigned topic)/ examination.

A student is required to earn a minimum of 50% score in each category – ongoing assessment and final assessment. However, in total a minimum of 65% score is required to qualify in a course.

In case a student secured more than 50% score in both the categories, but did not qualify in a course (less than 65%), he/she shall be required to appear the supplementary examination on that course with necessary payment of fee for the examination.

In case a student secured less than 50% score in any category, he/she shall be required to pursue the course again by making necessary payment of course fee.

Grading System

The following grading system is used to assign grades to the students on the basis of their scores on a course:



Score	Letter Grade	Point Grade	Description
85 – 100	A	4.0	Excellent
80 – 84	B+	3.5	Very Good
70 – 79	B	3.0	Good
65 - 69	C+	2.5	Fairly Good/Pass
60 - 64	C	2.0	Fair
Note: Less than 65 score is declared to be fail in a course.			

Separate guidelines are followed for the evaluation of Research Project and Master Thesis. Based on the above grading system, score of a student for the research works is decided by the research committee formed by the faculty for evaluation.



Grade Point Average (GPA)

- Credit Hour (CH) is the amount of work represented in learning outcomes and verified by evidence of student achievement of grade A, B+, B, C+, C, D, E and F: one hour of lecture and a minimum two hours of on-going work/out-of-class student work each week for approximately of fifteen weeks for one semester hours of credit. The on-going work/out-of-class student work includes workshops, seminars, laboratory work, practicum, studio work, field work, presentation, group discussion, quizzes, exams, study visits, and



other academic work leading to the award of credit hours.

- One credit hour (CH) is equivalent to at least 15 hours of work presented in student learning outcomes and each course involves at least 3 credit hours (CH) or is equivalent to 45 hours for the entire program.
- Grade Points Value (GP) is the conversion of letter grade to numerical grade representing the percentage of marks received.
- Grade Points Earned = GP x CH
- Total Grade Points Average (GPA) is the average of total grade points earned, where,

$$GPA = \frac{\sum(GP \times CH)}{\sum(CH)}$$

Credit Transfer

A maximum of 15 credits will be allowed to a student coming from other universities/ institutions to enroll in the master program irrespective of credits earned by him/ her previously in the same program. The maximum 15 credits will be given considering the courses taken and completed by the student similar to the courses offered in the master program. The Senior Dean/Dean of the faculty will examine the candidature and get the approval from the Senior Vice President, Academic Affairs before admitting the student in the program.

Our Full-time/Part-time Professors - Name a few



Assoc. Prof. Dr. Dy Davuth

Major Areas:

- Data Science and Machine Learning
- Deep Learning and Artificial Intelligence (AI)



Prof. Dr. Manaranjan Behera

Major Area:

- Research Methodologies



Assoc. Prof. Huy Valina

Major Areas:

- Advanced Routing and Switching
- High Speed Network



Assoc. Prof. Meas Vandeth

Major Areas:

- Oracle and Distributed Databases
- Database Administration



Asst. Prof. Hour Sarin

Major Areas:

- Database Administration
- Data Warehouse and Data Mining



Mr. Dul Vanntha

Major Areas:

- Research Methodologies
- Advanced Routing and Switching



Assoc. Prof. Chhim Taravaddey

Major Areas:

- Advanced Routing and Switching
- High Speed Network
- Cloud Architecture



Mr. Un Virak

Major Area:

- Mobile App Developer



Assoc. Prof. Im Vutha

Major Areas:

- Advanced Routing and Switching
- High Speed Network
- Cloud Architecture



Assit. Prof. Oum Saokosal

Major Areas:

- Oracle and Distributed Databases
- Data Warehousing and Data Mining



Mr. Chheng Mich

Major Areas:

- High Speed Network
- Cloud Architecture
- Advanced Routing and Switching



Mr. Kith Sophal

Major Area:

- Full-Stack Developer



Mr. So Vanann

Major Areas:

- .Net Developer
- Mobile App Developer



Mr. Rin Ratha

Major Areas:

- Database Administrator
- Oracle and Distributed Databases
- Data Warehouse and Data Mining



Mr. Meas Phearom

Major Areas:

- Full-Stack Developer
- Deep Learning and Artificial Intelligence (AI)
- Data Science and Machine Learning



Mr. Chea Mungleang

Major Areas:

- Database Administration
- Data Warehousing and Data Mining



Mr. Seng Leang Hong
Major Areas:

- Oracle and Distributed Databases
- Database Administration



Mr. Ang Sokroeun
Major Areas:

- Cloud Architecture
- Cyber Security Analyst



Mr. Van Daro
Major Area:

- Data Science and Machine Learning



Mr. San Sokvisal
Major Areas:

- Advanced Routing and Switching
- Cloud Architecture
- High Speed Network



Mr. Chhay Samang
Major Areas:

- Database Administrator
- Data Warehouse and Data Mining



Mr. Chheng Chamnoi
Major Areas:

- .Net Developer
- Mobile App Developer



Mr. Seng Seyha
Major Areas:

- Advanced Routing and Switching
- High Speed Network



Mr. Ly Chanchamrong
Major Areas:

- Cyber Security Analyst
- Data Science and Machine Learning

Physical Academic Infrastructure

Classroom Facilities

The classroom designed for the Master of Science (M.Sc.) in Information Technology students are well-equipped with latest teaching aids, and are air-conditioned to make all feel comfortable to learn in a conducive environment. Each classroom has enough space for individual learning as well as to carry out group discussions, role play and presentations.



Library

The library of Build Bright University is rich in latest textbooks and reference books as well as relevant study materials. The library has also the facility of Internet, which the students can use during their study. Further, the library is well-equipped with both audio and video aids to provide enough provisions for the students to learn in a friendly environment. All BBU campuses have the latest provisions in the library to generate interest among the students to learn.



Computer Laboratory

Build Bright University has well-equipped computer labs for students both in the main campus as well as provincial campuses. To provide latest knowledge in science and technology as well as application of models in information technology computer labs for the Master of Science (M.Sc.) in Information Technology students are designed. Besides normal IT equipment, the computer labs of the university also have the facilities of PBX Switching System-Panasonic TX-TA 308 and 2X Cisco Router 1721 & Cisco Router 26W with 4XRAD Modem, which the students can use to enhance the IT skills during their study.



Seminar and Workshop

Faculty of Science and Technology organizes seminars for Master of Science (M.Sc.) in Information Technology students on relevant topics and recent issues of information and telecommunication technology. The seminars are mostly addressed by persons of international repute, and the students get an opportunity to interact and share their knowledge among others.



Placement

In helping students to enhance their career decision making skills and better understand how to connect their academic degrees with the world of work, the university has developed a comprehensive program to provide students with many career development assessment tools used as part of career counselling process. These tools can help to assess their work values, interests and skills. Besides, organizations need personnel on several functional areas have the opportunity to meet the qualified students of the university. BBU through its respective division facilitates the placements of the students.

Tuition Fees	
Khmer Candidate	
✓ Per Semester	US\$ 495
✓ Per Annum	US\$ 990
✓ Full Program	US\$ 1,980
Foreign Candidate	
✓ Per Semester	US\$ 607.50
✓ Per Annum	US\$ 1,215
✓ Full Program	US\$ 2,430

Contact: Central and Provincial Campuses

Main Campus (Phnom Penh)



Building B

Address: (Building A & B)

- » Along street 1003 between streets 1988 & 1992, Sangkat Phnom Penh Thmei, Khan Sen Sok, Phnom Penh, 12101, Cambodia
- » Tel : 023 987 700, 012 682 777, 015 682 777
- » E-mail : info@bbu.edu.kh
- » Website : bbu.edu.kh
- » Facebook Page :  [facebook](https://www.facebook.com/bbu.edu.kh)  [bbu.edu.kh](https://www.facebook.com/bbu.edu.kh)





Building A

Siem Reap Campus



Address:

- » Along the road from Phsar Krom to Wat Chork, Vihear Chen Village, Sangkat Svay Dangkum, Siem Reap City, Siem Reap Province
- » Tel : 063 963 300, 012 963 300, 093 963 300, 011 908 777, 015 908 777, 063 763 501
- » E-mail : info@sr.bbu.edu.kh
- » Website : sr.bbu.edu.kh
- » Facebook Page :  [facebook](https://www.facebook.com/fb.com/sr.bbu.edu.kh)  [fb.com/sr.bbu.edu.kh](https://www.facebook.com/fb.com/sr.bbu.edu.kh)



Battambang Campus



Address:

- » Street 515, Phum Chrey Kaong 2, Sangkat Samrong, Battambang City, Battambang Province
- » Tel : 053 900 904, 010 374 757, 017 651 751, 015 651 751
- » E-mail : info@bb.bbu.edu.kh
- » Website : bb.bbu.edu.kh
- » Facebook Page :  [facebook](https://www.facebook.com/fb.com/bb.bbu.edu.kh)  [fb.com/bb.bbu.edu.kh](https://www.facebook.com/fb.com/bb.bbu.edu.kh)



Preah Sihanouk Campus



Address:

- » Street Ou Mui, Department of Agriculture, Forestry & Fisheries, 5 Village, Sangkat 4, Preah Sihanouk City, Preah Sihanouk
- » Tel : 034 934 024, 077 892 555, 070 977 376, 096 811 7494, 016 390 219
- » E-mail : info@sh.bbu.edu.kh
- » Website : sh.bbu.edu.kh
- » Facebook Page :  [facebook](https://www.facebook.com/fb.com/sh.bbu.edu.kh)  [fb.com/sh.bbu.edu.kh](https://www.facebook.com/fb.com/sh.bbu.edu.kh)



Takeo Campus



Address:

- » Sen Sok Leap Building, Phum 1, Sangkat Rokanong, Krong Doun Kaev, Takeo Province (Near the Hall of Fame Takeo)
- » Tel : 032 931 031, 012 495 234, 016 245 676, 093 399 920
- » E-mail : info@tk.bbu.edu.kh
- » Website : tk.bbu.edu.kh
- » Facebook Page :  [facebook](https://www.facebook.com/fb.com/takeo.bbu.edu.kh)  [fb.com/takeo.bbu.edu.kh](https://www.facebook.com/fb.com/takeo.bbu.edu.kh)



Contact: Central and Provincial Campuses

Banteay Meanchey Campus



Address:

- » On the way Kirichum Chomkarkhnor Pagoda, Phum-Sangkat Ou Ambel (West of the Phnom Svay), Krong Serei Saophoan, Banteay Meanchey Province
- » Tel : 093 92 93 93, 099 711 212, 090 934 777
- » E-mail : info@bmc.bbu.edu.kh
- » Website : bmc.bbu.edu.kh
- » Facebook Page : [fb.com/bmc.bbu.edu.kh](https://www.facebook.com/bmc.bbu.edu.kh)



Ratanakiri Campus



Address:

- » Phum Tesh Anlong, Sangkat Boeung Kan Seng (Opposite Kan Seng Lake), Krong Ban Lung City, Ratanakiri Province
- » Tel : 017 950 956, 012 212 209, 096 754 5297, 090 787 699
- » E-mail : info@rk.bbu.edu.kh
- » Website : rk.bbu.edu.kh
- » Facebook Page : [fb.com/rk.bbu.edu.kh](https://www.facebook.com/rk.bbu.edu.kh)



Stung Treng Campus



Address:

- » Thmorleat Village, Sangkat Srasrussie, Krong Stung Treng, Stung Treng Province, Next to School of Khmer-Chinese Association
- Tel : 066 973 663, 031 251 5959, 098 779 344, 098 777 740, 010 494 964
- » E-mail : info@st.bbu.edu.kh
- » Website : st.bbu.edu.kh
- » Facebook Page : [fb.com/st.bbu.edu.kh](https://www.facebook.com/st.bbu.edu.kh)



Tboung Khmum Campus



Address:

- » Tonle Bet Leu Village, Tonle Bet Commune, Tboung Khmum District, Tboung Khmum Province
- » Tel : 066 777 158, 098 777 158, 099 777 158
- » E-mail : info@tb.bbu.edu.kh
- » Website : tb.bbu.edu.kh
- » Facebook Page : [fb.com/tb.bbu.edu.kh](https://www.facebook.com/tb.bbu.edu.kh)

