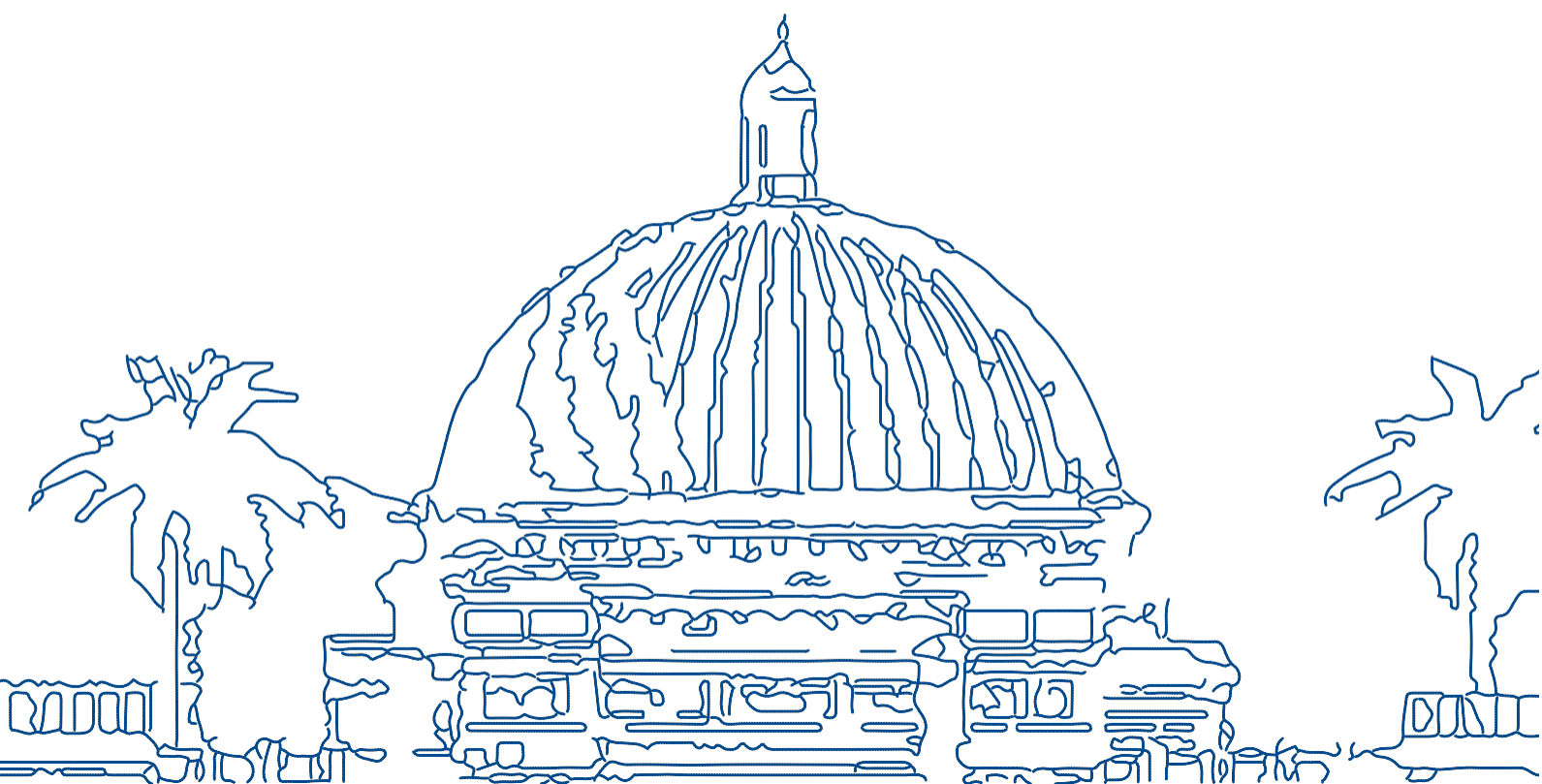# Faculty of Informatics and Computer Science
Undergraduate Prospectus
2023/2024

1.0   THE FACULTY OF INFORMATICS AND COMPUTER SCIENCE

1.1   Undergraduate Programmes

BSc. Honours (Hons) Informatics and Computer Science
The programme offers a broad understanding of Informatics and Computer Science and allows you to specialise in one of the following specific areas:

- Computer Science
- Information Systems
- Software Engineering
- Computer Networks
- Artificial Intelligence

1.2   Why study in the Faculty of Informatics and Computer Science?

The Faculty of Informatics and Computer Science at the British University in Egypt is an effective and modern Faculty offering a diverse range of specialisation. The overall mission of the Faculty is to provide Egypt, and the Middle East, with a British style of education of the highest quality, and to prepare graduates that feed and stimulate industry and commercial activities.

Informatics and Computer Science is concerned with the scientific, technical and human dimensions of information technology, in which computers feature to a substantial degree. Informatics and Computer Science is also concerned with the study, applications and social consequences of information technology. The real purpose of informatics is to create novel and effective solutions.

Informatics and Computer Science involves knowledge derived from many disciplines as: Science, Artificial Intelligence, Engineering, Medicine, Economics, Management, Sociology, Law, and Psychology.

The Faculty maintains close partnerships with industry in Egypt and beyond. Students benefit from this. The future of our society depends on individuals who are disciplined and organised, as well as creative and multi-skilled. No profession or organisation nowadays can afford to function without effective information technology solutions, and creating them requires individuals educated in an innovative and adaptive manner.

Students in the Faculty study in an environment that encourages diversity and innovation. Staff is not just academic experts in their fields. They often have 'real life' practical experience, which they bring to their subjects, as well as close contacts with the 'world of work'. Students in the Faculty learn not just, "what to think but how to think."

The Faculty of Informatics and Computer Science offers a range of degree specialisms, each with its own different emphasis. Our students graduate with a degree in Informatics and Computer Science in one of the following specialisms:

- Computer Science (CS)
- Information Systems (IS)
- Software Engineering (SE)
- Computer Networks (CN)
- Artificial Intelligence(AI)

While all degrees have core modules dealing with computing, programming and information technology, students wil also develop skills in communication, team working, project management, leadership and, in a rapidly and continuousl changing field, how to be an effective lifelong learner. Our degree programmes are characterised by:

- Range of specialisations that cover the global IT market needs
- A mix of theory and practice to provide a close fit with industry's requirements. What our students learn has immediate professional value
- Research-oriented modules and hands-on experience modules as part of the degrees
- Modules that are updated on a regular basis to reflect changes in the Information and Communication Technology (ICT) domain
- Academic staff who are highly qualified with both UK and Egyptian experience
- Access to up-to-date computer facilities
- A focus on employability. Our graduates have an edge in the work-place, whether they wish to work in a small start-up company or highly complex organisations
- Opportunities for summer training and internships

Preparatory Year

You will start your journey in the world of computers with four introductory modules in Computing, Information Systems, Programming and Web Programming. Other modules include Scientific Thinking, Mathematics, Humanities and English. These enhance your analytical abilities, Study Skills and knowledge necessary for the Computer Scientist of today, as well as your ability to communicate in professional environment.

Degree Year 1

This year empowers you as a Programmer and provides you with a deeper knowledge and understanding of the object oriented programming concepts, data structures and database design. Moreover, you will learn about Software Engineering and the science of Software Production and Testing. You will also study Human Computer Interaction and how best design and implement computer screens and interfaces.

Degree Year 2

In the first semester you will learn about Systems Analysis and how to understand and specify an Information System's needs. You will also be introduced to Computer Networks. You will understand algorithms and how one solution to a problem can be better than another. By the second semester you will be ready to choose a specialisation area (Computer Science, Information Systems, Software Engineering, Computer Networks or Artificial Intelligence*). Semester 2 allows you to develop a greater understanding of your specialisation.*

Degree Year 3

Your final year of studies brings together all you have learned to the highly specialised modules of Year 3, in addition to your Final Year Project (FYP). The FYP is a yearlong undertaking and provides you with a vehicle to show your skills and creativity under the supervision of an academic staff member.

1.3.3   ICS Assessment

Teaching involves a mix of lectures, tutorials, group work, private study and practical activities. Assessment involves submitting coursework, sitting exams, presentations and projects. Students are also encouraged to obtain internships.

1.0   THE FACULTY OF INFORMATICS AND COMPUTER SCIENCE

1.3   BSc (Hons) Informatics and Computer Science

1.3.4   ICS career and further education opportunities

Opportunities are almost limitless in the information technology and computing world. There are numerous avenues you could follow, most with attractive salaries. With the worldwide shortage of skilled professional IT personnel, you have an open door to the entire planet. Informatics and Computer Science is an exciting, dynamic field. In fact, the demand for computing and other information technology skills worldwide far exceeds the supply, so if you are willing to go the distance, a career in Informatics and Computer Science assures you employment.

If you study Informatics and Computer Science at the BUE, you have number of potential careers including the following:

1   Software Developer: It is known as Computer Programmer, you will be responsible for the following:
    • Maintaining running applications
    • Improving current new applications
    • Writing programs for different applications such as: Expert systems, Educational systems, Medical applications, etc…

2   •   Artificial intelligence application developer
    • Machine learning application engineer
    • Data scientist and data analysis engineer

3   Game Programmer: Primarily develops video games and computer games. Game programming is one of the highest paid jobs in the IT industry.

4   Mobile apps Programmer: This is a promising field of Java programming for *ipad, smart phones, etc…*

5   Web Developer: responsible for the design, development and maintenance of software and applications.

6   System Analyst and Designer: responsible for researching, planning and recommending software and systems choices to meet an organisation's business requirements. System analysts are normally responsible for developing cost analysis, design considerations, implementation timelines, and general feasibility studies of a computer system before making recommendations to senior management.

7   Database Administrator: responsible for the planning, implementation, configuration, and administration of database management systems.

8   Software Engineer: responsible for creating and maintaining software applications by applying technologies and practices from computer science, project management, engineering, application domains and other fields.

9   Software Tester: responsible for testing newly produced software before being released in the market.

10 Network Specialists: responsible for designing, setting up, maintaining, and securing a computer network. Network specialists often work in, or run, the IT department of a company.

1.0 THE FACULTY OF INFORMATICS AND COMPUTER SCIENCE

1.3.5 What our graduates say

"Studying at BUE and being one of the first graduates was a blessing in disguise. Though we were required to wor really hard, at the end of the day it was all worthwhile. We were lucky to have academic staff that challenged us an encouraged us to reach our full potential. Looking back, I think that I spent the best years of my life at BUE. One thing i for sure, that working in the technical side at HP has proven to be extremely different to studying at BUE, but althoug it is different I sincerely feel BUE prepared me well for the field that I am working in today."

Dina Khaled, Field Representative Hewlett-Packard, Cairo

1.3.6 How to apply for a programme in the Faculty of Informatics and Computer Science

(i) Read the admissions section in our general booklet. This can also be downloaded at www.bue.edu.eg

(ii) Submit an application online at www.bue.edu.eg

(iii) Call the BUE Hotline and speak to a member of staff in the Student Affairs Department in you require further information - 19(BUE) 19283

1.3.7 When to apply:

(i) The early admissions period begins in January of each academic year.

(ii) Applicants are encouraged to apply early in order to secure a place in their chosen programme of study.

(iii) Once programmes are full the applicants will be placed on a waiting list.

1.3.8 Alumni:

1) Alex, Microsoft – Ireland
2) Tamer, Microsoft - Seatle
3) Hazem, Microsoft – Seatle
4) Ayman, Microsoft – Seatle
5) Shaimaa, AUC
6) Amr, Valeo – Cairo
7) Mohammed, El-Abd – ITS – Cairo

For more details, visit ICS website: http://www.bue.edu.eg/index.php/schools/ics