Faculty of Computing and Intelligent Systems

Bachelor of Science in Computer Science

Empowering Innovators for a Digital Future

Program Mission

To deliver a transformative education in computer science that equips students with cutting-edge technical skills, ethical principles, and innovative mindsets to address global challenges in artificial intelligence, cybersecurity, and digital entertainment. We foster research excellence, interdisciplinary collaboration, and leadership to advance technological solutions for a sustainable, secure, and interconnected world.

Program Vision

To be a regional leader in computer science education and research, driving advancements in AI, cybersecurity, and game development. We aim to inspire the next generation of technologists to pioneer ethical, impactful solutions aligned with the UAE's national innovation agendas and global digital transformation.

Program Goals

1. Graduate technically proficient innovators equipped to design AI systems, secure digital infrastructure, and develop immersive games that address real-world challenges in sustainability, security, and human-computer interaction.
2. Cultivate expert communicators who can articulate complex technical concepts to diverse audiences, from developers to policymakers.
3. Develop critical thinkers skilled in solving problems at the intersection of technology, ethics, and society aligned with UAE strategic goals.
4. Prepare job-ready graduates with industry-aligned expertise for high-demand careers or advanced postgraduate study.
5. Foster ethical leaders who collaborate effectively, champion integrity, and drive innovation in global tech ecosystems.

Program Learning Outcomes

Upon completion, students will be able to:

1. Master core competencies in programming, algorithms, data structures, computer architecture, and software engineering.
2. Communicate effectively through technical documentation, presentations, and interdisciplinary teamwork.
3. Apply critical thinking to design, implement, and evaluate solutions in AI, cybersecurity, or game development.
4. Analyze socio-technical challenges (e.g., AI ethics, cyber threats, inclusive design) impacting local/global communities.
5. Execute scientific methods using modern tools (AI frameworks, cyber ranges, game engines) for data-driven innovation.
6. Lead ethically in professional settings, demonstrating autonomy, teamwork, and social responsibility.

Concentration

Concentration	Key Focus Areas	Cutting-Edge Applications
Artificial Intelligence	Machine Learning, NLP, Computer Vision, Robotics, AI Ethics	Smart cities, healthcare diagnostics, autonomous systems
Cybersecurity	Network Defense, Cryptography, Digital Forensics, Ethical Hacking, Cyber Law	Critical infrastructure protection, IoT security
Computer Game Development	Game Engine Programming, 3D Graphics, AR/VR, Game AI, Interactive Storytelling	Serious games for education, metaverse development

Graduates will lead in roles such as:

- **AI**: Machine Learning Engineer, Data Scientist, Robotics Specialist
- **Cybersecurity**: Security Analyst, Penetration Tester, Cyber Risk Consultant
- **Game Development**: Game Programmer, VR Developer, Technical Artist
- **Cross-Disciplinary**: Tech Entrepreneur, R&D Scientist, Systems Architect
- **Industries:** Tech giants, government agencies, gaming studios, fintech, healthcare, defense, and academia.

Unique Program Features

- **Synergistic Curriculum**: Projects integrating multiple concentrations (e.g., AI-driven game NPCs, cyber-secure game servers).
- **Industry Partnerships**: Internships with tech giants (e.g., G42, DarkMatter), game studios (Ubisoft), and government entities (UAE Cyber Security Council).
- **Advanced Labs:**
    - AI & Robotics Sandbox (NVIDIA DGX, IoT systems)
    - Cyber Range (live attack/defense simulations)
    - Game Innovation Studio (Motion capture, Unreal Engine/Unity)
- **Ethics-Forward Courses**: Responsible AI, Cyber Ethics, Inclusive Game Design.

Why Choose This Program?

- **Future-Ready Specializations**: Concentrations reflect UAE's economic diversification goals.
- **Research-Industry Nexus**: Faculty expertise in AI ethics, blockchain security, and immersive media.
- **Global Impact**: Solve challenges like climate modeling (AI), critical infrastructure protection (cyber), or cultural storytelling (games).

"We don't just code—we engineer resilient systems, defend digital frontiers, and redefine human experience."