

SCHOOL OF ENGINEERING

APPLIED **DIGITAL** SYSTEMS
DESIGN TECHNIQUES



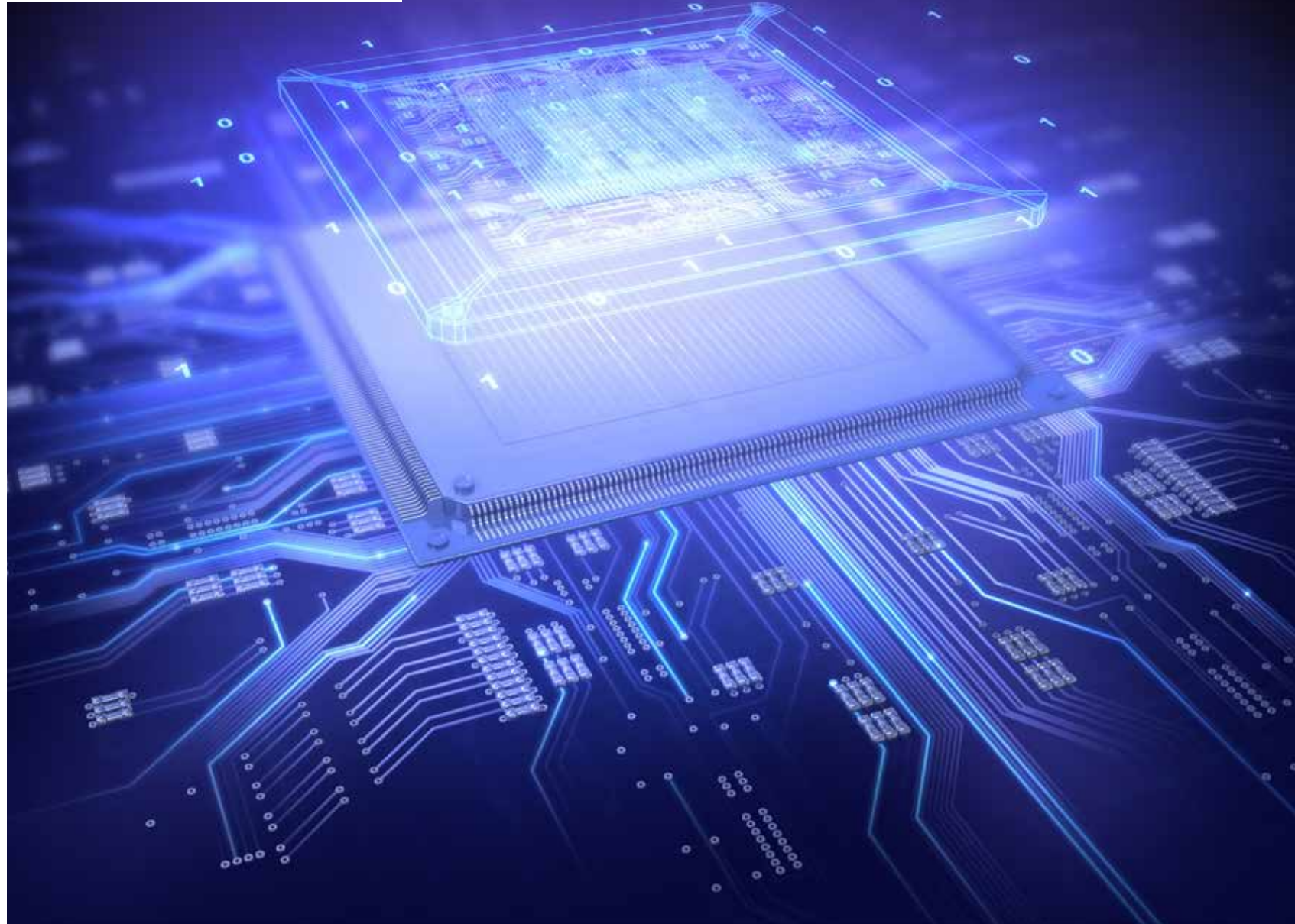
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APPLIED **DIGITAL** SYSTEMS **DESIGN TECHNIQUES**

OVERVIEW

This class presents a systematic approach to designing and implementing chip-level digital systems design. The class places emphasis on simulation and CAD tools. The skills acquired include high-level hardware design languages, digital simulation tools, synthesizers, power analysis and chip planning tools. The class is practical and allows students to learn by doing. Students will work in teams to execute and demonstrate their project, and at the end of which period they will showcase their work by giving a professional presentation to an open audience of faculty, fellow students, and interested companies.

Full process and development cycle will address all the issues that are typically faced in the process of developing a digital design.



TARGET AUDIENCE

- USEK current students - School of Engineering
- USEK fresh graduates - School of Engineering
- Students from Lebanese and foreign universities

ADMISSION REQUIREMENTS

- Prerequisite topics:
Logic Design, Digital Electronics and Digital Circuits Lab.
- Programming languages such as 'C' is a plus.

OUTPUT

- Acquire high-level skills in hardware design languages, digital simulation tools, synthesizers, power analysis and chip planning tools.
- Design complex combinatorial and sequential circuits, and will be able to make their design robust to work in a real-world electronic environment.
- Work cooperatively as proficient engineers with communicative and behavioural skills in multi-disciplinary teams.
- Ethically lead with innovation and contribute to the development of Lebanon and the Middle East while considering contemporary issues and their implications to engineering practice.
- Succeed in lifelong learning programs to remain up-to-date professionals able to respond and accompany technological advancements and real-world demands within realistic constraints.
- The 3-credit course starts in the Spring semester 2019-2020
- The course will be delivered by Mr. Jihad Boura, Chief Architect at IPG Photonics, on Tuesdays and Thursdays from 5:00 p.m. till 6:15 p.m.
- Upon completion, participants will get a Certificate of Attendance from USEK and IPG Photonics.
- For more details, please call +961 9 600 960.

CAPSTONE PROJECT

A chip development project from specification through implementation to simulation and demonstration.