Faculty of Engineering | Electrical and Computer Engineering
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University of Victoria

COURSE OUTLINE

ECE 568 – System-on-Chip Engineering for Signal Processing

Term – SUMMER 2020 (202005)

Instructor

Dr. Daler Rakhmatov
Phone: 250-472-5214
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Office Hours

Days: T
Time: 13:30 – 15:00
Location/Platform/link: UVic Blackboard Collaborate
(link to be emailed to class)

Course Objectives

- Students will learn basic concepts and techniques related to modeling, design, testing, and power management of Systems-on-Chip (SOC).

Learning Outcomes

- Students will be able to: 1) discuss key challenges and solutions associated with SOC design and test, 2) discuss key challenges and solutions associated with SOC energy consumption, 3) use the specify-explore-refine methodology and SystemC modeling language for hardware-software SOC design, 4) analyze the behavior of discrete-event simulation models, 5) apply energy management techniques to improve SOC efficiency.

Syllabus (tentative hours)

- SOC technology roadmap and key issues (3);
- Model-based SOC design with SystemC (18);
- SOC self-test and power management (12);
- SOC architectures and applications (3).

A-Section(s): A01 / CRN 30343
Days: TWF
Time: 10:30 – 11:20
Location/Platform/link: UVic Blackboard Collaborate (link to be emailed to class)

Required Textbook

Title: N/A
Author:
Publisher:
Year:

Optional Textbook

Title: N/A
Author:
Publisher:
Year:

Online Course Delivery:

As this course will be conducted online during this term, students will need to complete assignments/labs online. The students will require access to a computer which has the following software installed: *MobaXterm* (SSH/SFTP client + X11 server, mobaxterm.mobatek.net) or alternatives, to access the ECE Undergraduate Linux Lab computers remotely.

References: Couse website **https://www.ece.uvic.ca/~daler/courses/ece466**

Assessment:

Assignments:	15%	Due Dates: TBA
Presentation:	5%	
Project:	20%	
Mid-term	20%	Date: June 26 (tentative)
Final Exam	40%	

Important: All deadlines and schedules for this course will reference Pacific Daylight Time.

The final grade obtained from the above marking scheme for the purpose of GPA calculation will be based on the percentage-to-grade point conversion table as listed in the current Graduate Calendar.

https://www.uvic.ca/calendar2020-05/grad/index.php#/policy/B13jeiMdE?bc=true&bcCurrent=07%20-%20Grading&bcItemType=policies

Note to Students:
Students who have issues with the conduct of the course should discuss them with the instructor first. If these discussions do not resolve the issue, then students should feel free to contact the Chair of the Department by email or the Chair's Secretary to set up an appointment.

Course Withdrawal Deadlines:
- May 16, 2020: Withdrawal with 100% reduction of tuition fees
- June 6, 2020: Withdrawal with 50% reduction of tuition fees
- July 1, 2020: Last day for withdrawal (no fees returned)

Accommodation of Religious Observance:
https://www.uvic.ca/calendar2020-05/grad/index.php#/policy/SkmigiMOV?bc=true&bcCurrent=17%20-%20Accommodation%20of%20Religious%20Observance&bcItemType=policies

Policy on Inclusivity and Diversity:
    Engineering: https://www.uvic.ca/engineering/about/equity/index.php
    Academic Calendar: https://www.uvic.ca/calendar2020-05/grad/index.php#/policy/HkQ0pzdAN

Standards of Professional Behaviour:
You are advised to read the Faculty of Engineering document Standards for Professional Behaviour, which contains important information regarding conduct in courses, labs, and in the general use of facilities.
http://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf

Academic Integrity:

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult the entry in the current Graduate Calendar for the UVic policy on academic integrity.

https://www.uvic.ca/calendar2020-05/grad/index.php#/policy/BJujesM_E?bc=true&bcCurrent=02%20-%20Policy%20on%20Academic%20Integrity&bcItemType=policies

Equality:
This course aims to provide equal opportunities and access for all students to enjoy the benefits and privileges of the class and its curriculum and to meet the syllabus requirements. Reasonable and appropriate accommodation will be made available to students with documented disabilities (physical, mental, learning) in order to give them the opportunity to successfully meet the essential requirements of the course. The accommodation will not alter academic standards or learning outcomes, although the student may be allowed to demonstrate knowledge and skills in a different way. It is not necessary for you to reveal your disability and/or confidential medical information to the course instructor. If you believe that you may require accommodation, the course instructor can provide you with information about confidential

resources on campus that can assist you in arranging for appropriate accommodation. Alternatively, you may want to contact the Centre for Accessible Learning located in the Campus Services Building: https://www.uvic.ca/services/cal/. The University of Victoria is committed to promoting, providing, and protecting a positive, and supportive and safe learning and working environment for all its members.

Course Materials:
Unless otherwise noted, all course materials supplied to students in this course have been prepared by the instructor and are intended for use in this course only. These materials are NOT to be re-circulated digitally, whether by email or by uploading or copying to websites, or to others not enrolled in this course. Violation of this policy may in some cases constitute a breach of academic integrity as defined in the UVic Calendar.

Sexualized Violence Prevention and Response at Uvic:
UVic takes sexualized violence seriously, and has raised the bar for what is considered acceptable behaviour. We encourage students to learn more about how the university defines sexualized violence and its overall approach by visiting www.uvic.ca/svp. If you or someone you know has been impacted by sexualized violence and needs information, advice, and/or support, please contact the sexualized violence resource office in Equity and Human Rights (EQHR). Whether or not you have been directly impacted, if you want to take part in the important prevention work taking place on campus, you can also reach out:

>   **Where:** Sexualized violence resource office in EQHR; Sedgewick C119
>   **Phone:** 250.721.8021
>   **Email:** svpcoordinator@uvic.ca
>   **Web:** www.uvic.ca/svp

Office of the Ombudsperson:
The Office of the Ombudsperson is an independent and impartial resource to assist with the fair resolution of student issues. A confidential consultation can help you understand your rights and responsibilities. The Ombudsperson can also clarify information, help navigate procedures, assist with problem-solving, facilitate communication, provide feedback on an appeal, investigate and make recommendations. Phone: 250-721-8357; Email: ombuddy@uvic.ca; Web: https://uvicombudsperson.ca/