COURSE OUTLINE

ECE 427 Photovoltaics
Spring 2020 (202001)

Instructor
Dr. Chris Papadopoulos
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E-mail: papadop@ece.uvic.ca

Office Hours
Day: Tuesday Time: 2:30PM – 5:00PM
(or by appointment)
Location: EOW 429

Lectures
Sections: A01/CRN 23999
Days: TWF
Time: 9:30AM – 10:20AM
Location: ECS 130

Website
http://coursespaces.uvic.ca/ (NetLink ID required)

Required Text
Readings will be provided.

Reference texts
Photovoltaic Solar Energy Generation, Lotsch et al.,
Springer (e-book available via library).

Physics of Semiconductor Devices, Sze and Ng, Wiley
(standard reference on devices).

Solar Energy, Isabella et al., UIT Cambridge (Kindle
edition available via Amazon).

Topics
I Review of Electronic Materials and Devices
II Operating Principles of Solar Cells
III Conventional Solar Cells
IV Emerging Photovoltaic Technologies
V Photovoltaic Systems

Assessment
Tests 15; 20% (Take home, due Feb. 25; Mar. 17)
Term Paper 40% (Due April 3)
Final Exam 25%

Submit all work directly to instructor (in-class or office by 5 PM). Term papers will not be accepted after the due date.
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 Undergraduate Calendar: http://web.uvic.ca/calendar2020-01/undergrad/info/regulations/grading.html

Assignment of E grade and supplemental examination for this course will be at the discretion of the Course Instructor. The rules for supplemental examinations can be found in the current Undergraduate Calendar: http://web.uvic.ca/calendar2020-01/undergrad/info/regulations/exams.html

Course Withdrawal Deadlines
- January 19: Withdrawal with 100% reduction of tuition fees
- February 9: Withdrawal with 50% reduction of tuition fees
- February 29: Last day for withdrawal (no fees returned)

Course Objectives and Learning Outcomes
Understand and apply principles of operation and design of modern photovoltaic device technology: (i) Equations describing device operation; (ii) Appropriate models; (iii) Factors that determine performance.

Syllabus

Accommodation of Religious Observance

Policy on Inclusivity and Diversity
http://www.uvic.ca/engineering/about/equity/index.php

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

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

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 Undergraduate Calendar for the UVic Policy on Academic Integrity: http://web.uvic.ca/calendar2020-01/undergrad/info/regulations/academic-integrity.html

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/

Sexualized Violence Prevention and Response at UVic:
UVic takes sexualized violence seriously and 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: Sexualized violence resource office in EQHR; Sedgwick C119; 250.721.8021; svpcoordinator@uvic.ca; www.uvic.ca/svp

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 Resource Centre for Students with a Disability 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 Lecture Notes
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, which could in some cases constitute a breach of academic integrity as defined in the UVic Calendar.