## COURSE OUTLINE

### ECE 427 Photovoltaics  
**Spring 2021 (202101)**

### Instructor
Dr. Chris Papadopoulos  
Phone: 250-721-8619  
E-mail: papadop@ece.uvic.ca

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

### Lectures
Sections: A01/CRN 20908  
Days: TWF  
Time: 11:30AM – 12:20PM  
Location: Brightspace

### Website
https://bright.uvic.ca/ (NetLink ID required)

### Required Text
Readings will be provided.

### Reference texts
- *Physics of Semiconductor Devices*, Sze and Ng, Wiley (standard reference on devices).

### 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 Mar. 2; Mar. 23)  
- Term Paper  
  40% (Due April 12)  
- Final Exam  
  25%

Submit all work via Brightspace by 5 PM. Term papers will not be accepted after the due date.

All times local (Victoria, BC).
Course Withdrawal Deadlines

- January 19, 2021: Withdrawal with 100% reduction of tuition fees (date currently under review)
- February 9, 2021: Withdrawal with 50% reduction of tuition fees (date currently under review)
- February 28, 2021: 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

Engineering: http://www.uvic.ca/engineering/about/equity/index.php

Academic Calendar:

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

You should consult the entry in the current Undergraduate Calendar for the UVic Policy on Academic Integrity:
https://www.uvic.ca/calendar/archives/202101/undergrad/index.php#/policy/Sk_0xsM_V?bc=true&bcCurrent=08%20-%20Policy%20on%20Academic%20Integrity&bcItemType=policies

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; Sedgewick 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.