

# Photonic Science & Engineering 2022-2023

## Major Courses Flowchart\*

www.creol.ucf.edu  
undergrad@creol.ucf.edu

### Major Acceptance Requirements (C or better in these courses)

CHM 2045C\*\*  
Chem Fundamentals I (4)  
PR: Chem Placement Test or  
CHM 1025 (2)

Or

CHS 1440\*\*  
Principles of Chemistry (4)  
PR: 1 Yr HS Chemistry

MAC 2311C\*\*  
Calculus I (4)

MAC1140C &  
MAC1114  
C or better or  
appropriate score on  
math placement exam

MAC 2312\*\*  
Calculus II (4)

PHY 2048\*\*  
PHY 2048L\*\*  
Physics I Lecture  
and Lab (3/1)

Year 1 FTIC/  
Transfer:  
EGS 1006C (1)  
EGS 1007C (1)

FTIC:  
OSE 2050 (1)

Year 2 Fall

PHY2048  
PHY2048L

PHZ 3150  
Intro. to  
Numerical  
Computing (3)

EGN 3211\*\*  
Engineering  
Analysis (3)

PHY 2049\*\*  
PHY 2049L\*\*  
Physics II Lecture  
and Lab (3/1)

MAC2312

MAC 2313\*\*  
Calculus III (4)

MAC2312

STA 3032  
Probability /  
Statistics (3)

MAC2312

Year 2 Spring

PHY2049  
PHY2049L

MAC2313

Year 2 Spring

MAC2313

PHY 3101  
Physics III (3)

EEL 3004C\*\*  
Linear Circuits I  
(3)

MAP 2302  
Differential  
Equations (3)\*\*

ETIC/  
Transfer:  
MAS 3105 (4)  
Transfer:  
OSE 2050 (1)

Year 2 Summer

EEE 3350  
Semiconductor  
Devices (3)

EEL3004C

MAP2302

EEL 3123C\*\*  
Linear Circuits II  
(3)

Year 3 Fall

EEE 3307C  
Electronics I  
(4)

OSE 3200  
Geometric Optics  
(3)

PHY2049  
PHY2049L

ETIC/  
Transfer:  
OSE 3043 (3)  
in lieu of one  
fall course

EEL 3123C

EEL 3552C  
Signal Analysis &  
Analog Comm. (4)

MAP2302

OSE 3052\*\*  
Foundations of  
Photonics (3)

OSE 3052L\*\* (1)

Year 3 Spring

EEE3350

OSE3052

OSE 3053  
EM Waves for  
Photonics (3)

OSE3052

OSE 4410  
Optoelectronics (3)

OSE 4410L (1)

OSE 4520  
Laser Engineering  
(3)

OSE 4520L (1)

ETIC/  
Transfer:  
OSE 4240 (3)  
or  
OSE 4720 (3)

OSE3200

EEE 3307C

OSE3053

OSE4410

OSE4520

OSE 4930  
Frontiers of Optics  
& Photonics  
(3)

ETIC/  
Transfer:  
OSE 4721 (3)

OSE 4951\*  
Senior Design I  
(3)

OSE4470

OSE 4470  
Fiber-Optic  
Commun (3)

OSE 4470L (1)

OSE 4830  
Imaging and  
Display (3)

OSE 4830L (1)

Year 4  
Spring

OSE 4952\*  
Senior Design II  
(3)

ETIC/  
Transfer:  
OSE 4240 (3)  
or  
OSE 4720 (3)

Year 4 Fall

EEL3123C

### Good Things to Know:

- 2.25 Major GPA required for graduation
- Register for courses early so you are not closed out.
- Register for Critical Path Courses first.
- Once you complete Major Acceptance Requirement Courses, change major to PSE in my.ucf.edu.
- Check with advisor before selecting electives.

Scan to visit the  
PSE Website



### KEY

**PREREQUISITE:** →

**COREQUISITE:** →

**CRITICAL PATH COURSES**

**Pre major requirements**

**Lab courses**

**Restricted Elective Options**

**RED BORDER: Course used for Major GPA Calc.**

Lab courses are required for PSE majors.

\*\* A grade of C (2.0) or better required  
+ EE/PSE Double Majors will be required to enroll  
in EEL 4914+OSE4953 and EEL4915L+OSE4953  
to satisfy Senior Design requirements.

### Restricted Elective Options

12 CR are needed to satisfy the restricted electives requirement. Electives shown on flowchart represent semesters in which courses are offered. Refer to myKnight Audit for full list

EGS 1006C Intro. To Engineering (1)<sup>1</sup>  
EGN 1007C Engr. Concepts and Methods (1)<sup>1</sup>  
OSE 2050 Intro. to Photonic Engineering Design (1)<sup>2</sup>  
OSE3043 Analytical Methods for Optics (3) PR: MAP 2302  
OSE4721 Biophotonics (3) PR:OSE 3052  
OSE4240 Intro. to Opt. Design (3) PR:OSE 3052, OSE 3200  
OSE4720 Visual Optics (3) PR:OSE 3052, OSE 3200  
OSE 4953 Senior Design Double Major ECE (1)<sup>3</sup>  
EEE 3342C Digital Systems (3)  
EEL 3470 EM Fields (3)  
EGN 4931H Eng. Honors Seminar-Research (3)  
EMA 4413 Fundamentals of Electronic Materials  
MAP 4303 Ordinary Differential Equations II (3)  
MAP 4341 Partial Differential Equations (3)  
MAP 4371 Numerical Methods for Diff. Eq. (3)  
MAS 3105 Matrix and Linear Algebra (4) PR: MAC 2312  
MAS 5145 Adv. Linear Alg. and Matrix Theory (3)  
OSE 4912 Directed Independent Research (1)  
OSE 4903H Honors Directed Reading (3)  
OSE 4970H Honors Thesis (3)  
PHY 4604 Wave Mechanics I  
PHY 4605 Wave Mechanics II  
PHZ 3113 Introduction to Theoretical Methods

Selected EEL/PHY/Math 4XXX Courses

<sup>1</sup> EGS 1006C and EGN 1007C are open only to students with less than 30 earned credit hours.  
<sup>2</sup> OSE 2050 is open to students who have not completed MAP 2302 Differential Equations  
<sup>3</sup> OSE 4953 is open only to dual major ECE-PSE students and must be taken with EEL4914 and EEL4915L. 1 credit hour per semester.

### PSE Advising

The PSE Advising Office is located in CREOL, Building 53, Room A213 or email at undergrad@creol.ucf.edu

\*Flowchart is a suggested plan. Meet with advisor for personalized plan. Gen. Ed. courses not listed. In the event of an error, UCF Catalog takes precedence.