Photonic Science & Engineering 2024-2025

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

- **MAC 2313**** Calculus III (4) — MAC2312
- **EGN 3211**** Engineering Analysis (3) — Or — **PHZ 3150**** Intro. to Numerical Computing (3) — MAC2311C
- **PHY 2049** PHY 2049L**** Physics II Lecture and Lab (3/1) — MAC2312
- **OSE 3200** Geometric Optics (3) — PHY2048 PHY2048L
  - **OSE 3200L** (1)

Year 2 Spring

- **MAP 2302** Differential Equations (3)** — MAC2313
- **EEL 3004C**** Linear Circuits I (3) — PHY2049 PHY2049L
- **PHY 3101** Physics III (3) — MAC2313 — PHY2049 PHY2049L
- **OSE 3052**** Foundations of Photonics (3) — MAC2313 — PHY2049 PHY2049L
  - **OSE 3052L**** (1)
- **STA 3032** Probability / Statistics (3) — MAC2312

Year 2 Summer

- **EEL 3123C**** Linear Circuits II (3) — MAP2302, EEL3004C
- **EEE 3350** Semiconductor Devices (3) — EEL3004C

Year 3 Fall

- **EEE 3307C** Electronics I (4) — EEL3123C
- **EEL 3552C** Signal Analysis & Analog Comm. (4) — EEL3123C
- **OSE 4830** Imaging and Display (3) — EEL3123C
  - **OSE 4830L** (1)

FTIC/ Transfer: OSE 3043 (3)

Year 3 Spring

- **OSE 4410** Optoelectronics (3) — EEE3350, OSE3052
  - **OSE 4410L** (1)
- **OSE 3053** EM Waves for Photonics (3) — OSE3052
- **OSE 4520** Laser Engineering (3) — OSE3052
  - **OSE 4520L** (1)

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

Year 4 Fall

- **OSE 4951+** Senior Design I (3) — OSE3200, EEE 3307C, OSE3053, OSE4410, OSE4520
- **OSE 4470** Fiber-Optic Commun (3) — OSE4470, EEL3552C, OSE3052
  - **OSE 4470L** (1)
- **OSE 4930** Frontiers of Optics & Photonics (3) — OSE3052

FTIC/ Transfer: OSE 4721 (3)

Year 4 Spring

- **OSE 4952+** Senior Design II (3) — OSE4951

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

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)[1]
EGN 1007C Engr. Concepts and Methods (1)[1]
OSE 2050 Intro. to Photonic Engineering Design (1)[2]
OSE3043 Analytical Methods for Optics (3) *PR: MAC 2313*
OSE4721 Biophotonics (3) *PR:OSE 3052*
OSE4240 Intro. to Opt. Design (3) *PR:OSE 3052, OSE 3200*
OSE 4953 Senior Design Double Major ECE (1)[3]
EEE 3342C Digital Systems (3)
EEL 3470 EM Fields (3)
EGN 4931H Eng. Honors Seminar-Research (3)
EMA 4413 Fundamentals of Electronic Materials (3)
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*
OSE 4912 Directed Independent Research (1)
OSE 4903H Honors Directed Reading (3)
OSE 4970H Honors Thesis (3)
PHY 3650 Quantum Information Processing (3)
PHY 4604 Wave Mechanics I (3)
PHY 4605 Wave Mechanics II (3)
PHZ 3113 Introduction to Theoretical Methods (3)

Selected EEL/PHY/Math 4XXX Courses

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

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

PSE Advising

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

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