Photonic Science & Engineering 2020-2021

Major Courses Flowchart*

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

- **CHM 2045C**** Chem Fundamentals I (4) *PR: Chem Placement Test*
- **CHS 1440**** Principles of Chemistry (4) *PR: 1 Yr HS Chemistry*
- Or
- **MAC 2311C**** Calculus I (4) — MAC1140C & MAC1114 C or better or appropriate score on math placement exam
- **MAC 2312**** Calculus II (4)
- **PHY 2048C**** General Physics using Calculus I (4)

Year 2 Fall

- PHY2048C, MAC2312
- **PHY 2049C**** General Physics using Calculus III (4)
- **EGN 3211**** Engineering Analysis (3)
- **MAC 2313**** Calculus III (4)

Year 2 Spring

- PHY2049C, MAC2313, PHY2049C, MAC2312
- **PHY 3101** General Physics using Calculus III (3)
- **EEL 3004C**** Linear Circuits I (3)
- **MAP 2302** Differential Equations (3)**
- **STA 3032** Probability / Statistics (3)

Year 2 Summer

- **EEE 3350** Semiconductor Devices (3)
- EEL3004C, MAP2302
- **EEL 3123C**** Linear Circuits II (3)
- **EEL 3552C** Signal Analysis & Analog Comm. (4)
- EEL3123C

Year 3 Fall

- EEL3123C
- **EEE 3307C** Electronics I (4)
- MAP2302, PHY2049C
- **OSE 3052**** Foundations of Photonics (3)
- **OSE 3052L**** (1)
- EEE3350, OSE3052
- **OSE 4410** Optoelectronics (3)
- **OSE 4410L** (1)
- **OSE 3053** EM Waves for Photonics (3)
- PHY2049C
- **OSE 3200** Geometric Optics (3)
- **OSE 3200L** (1)
- **OSE 4520** Laser Engineering (3)
- **OSE 4520L** (1)
- EEE 3307C, OSE3053, OSE4410, OSE4520, OSE3200
- **OSE 4951+** Senior Design I (3)
- OSE3052
- **OSE 4930** Frontiers of Optics & Photonics (3)
- OSE4470, EEL3552C
- **OSE 4470** Fiber-Optic Commun (3)
- **OSE 4470L** (1)
- OSE3052
- **OSE 4830** Imaging and Display (3)
- **OSE 4830L** (1)
- EEL3123C

Year 4 Spring

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

Year 4 Fall

KEY

- PREREQUISITE: →
- COREQUISITE: ⇢
- CRITICAL PATH COURSES
- Pre major requirements
- Lab courses
- Senior Standing Required
- 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.

Electives Requirement

12 CR are needed to satisfy the restricted electives requirement. EGS 1006C and EGN 1007C as well as OSE 4953 will reduce the total by 1 CR for each class completed.

See Advisor
Restricted Electives
12CR – (Classes taken below)

- **EGS 1006C** Intro to Engineering (1)
- **EGN 1007C** Engr. Concepts and Methods (1)
- **OSE 4953** Senior Design Double Major ECE (2) (1 CR each for SD I and SD II)

Approved Restricted Electives:

Refer to myKnight Audit for full list

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*
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 Linear Algebra (4)
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

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 Photonic Science and Engineering Advising Office is located in CREOL, Building 53, Room 108B. Email undergrad@creol.ucf.edu for questions about the major.

***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.**