School of Engineering Education
→ PURDUE UNIVERSITY
→ LEARNING to Make a DIFFERENCE

# MDE Concentration Guideline – *Lighting Engineering*

| **Semester 1** | | | **Semester 2** | | |
|---|---|---|---|---|---|
| CHM 11500 | General Chemistry | 4 | ENGR 13200 | TRANS IDEAS TO INNOV II | 2 |
| ENGR 13100 | TRANS IDEAS TO INNOV II | 2 | GEN ED | GEN ED (Found Outcome OC)[2] | 3 |
| GEN ED | GEN ED (Found Outcome WC)[1] | 3 | MA 16600 | PL ANLY GEO CALC II | 4 |
| MA 16500 | PL ANLY GEO CALC I | 4 | PHYS 17200 | MODERN MECHANICS | 4 |
| | | | SCI SEL | FYE SCIENCE SELECTIVE | 3 |
| | Total | 13 | | Total | 16 |
| **Semester 3** | | | **Semester 4** | | |
| IDE 30100 | PROF PREP IN IDE SEMINAR | 1 | AREA | AREA SELECTIVE[6] | 3 |
| MA 26100 | MULTIVARIATE CALCULUS | 4 | MFET 16300 | GRAPH COM & SPAT ANLY[7] | 2 |
| ME 20000 | THERMODYNAMICS[3] | 3 | ECE 20001 | ELEC ENGR FUND I | 3 |
| ME 27000 | BASIC MECHANICS I[4] | 3 | ECE 20007 | ELEC ENGR FUND I LAB[8] | 1 |
| PHYS 24100 | ELECTRICITY & OPTICS[5] | 3 | MA 26200 | LIN ALG AND DIF EQU[9] | 4 |
| THTR 16200 | INTRO LIGHTING DES & TECH | 2 | ME 27400 | BASIC MECHANICS II[10] | 3 |
| | | 16 | | Total | 16 |
| | | | | | |
| **Semester 5** | | | **Semester 6** | | |
| ECE 27000 | INTR DIGTL SYS DES (design) | 4 | CE 34000 | HYDRAULICS[13] | 3 |
| ECE 20002 | ELEC ENGR FUND II | 3 | ENGR SELECTIVE | ENGINEERING SELECTIVE[14] | 3 |
| ECE 20008 | ELEC ENGR FUND II LAB[8] | 1 | GEN ED | GEN ED (Found Outcome BSS)[15] | 3 |
| GEN ED | GEN ED (Found Outcome H)[11] | 3 | GEN ED | GEN ED(300 level or non intro)[16] | 3 |
| NUCL 27300 | MECHANICS OF MATERIALS[12] | 3 | IDE 3600 | MDE STATISTICS[17] | 3 |
| | | | | | |
| | Total | 14 | | Total | 15 |
| | | | | | |
| | | | | | |
| **Semester 7** | | | **Semester 8** | | |
| AREA | AREA SELECTIVE[6] | 4 | AREA | AREA SELECTIVE[6] | 3 |
| ENGR ELECTIVE | ENGINEERING ELECTIVE[18] | 3 | AREA | AREA SELECTIVE[6] | 3 |
| GEN ED | GEN ED (Found Outcome STS)[19] | 3 | ENGR ELECTIVE | ENGINEERING ELECTIVE[18] | 2 |
| GEN ED | GEN ED[16] | 3 | GEN ED | GEN ED(300 level or non intro)[16] | 3 |
| IDE 48300 | MDE ENGR ANALYSIS/DECISION[20] | 1 | IDE 48500 | MDE ENGR DESIGN PROJ[21] | 3 |
| IDE 48400 | MDE DESIGN METHODOLOGY | 1 | | | |
| IDE 48700 | MDE SENIOR DEVELOPMENT | 1 | | | |
| | Total | 16 | | Total | 14 |

[1]Written Communication University foundational outcome. Courses can be found at: http://www.purdue.edu/provost/students/s-initiatives/curriculum/courses.html

[2]Oral Communication University foundational outcome. Courses can be found at: http://www.purdue.edu/provost/students/s-initiatives/curriculum/courses.html

[3]other options include ABE 20100, 21000, CE 21101, CHE 21100, MSE 26000

[4]other options include CE 29007, AAE 20300

[5]sophomore science selective. Other options include PHYS 27200 or BIOL 11000, 20300, 22100, 23000 23100 or CHM 11600, 25500, 25700, 26100, 32100 or EAPS 10400, 10500, 10900, 11100, 11200, 11300, 11600, 11700, 12000, 13800, 17100 (May not be the same course used as FYE Science Selective.)

[6]Choose from the following: THTR 15001, THTR 15003, THTR 36200, THTR 56200, THTR 36800, THTR 56800, CE 31100, CE 41300, CE 51300 consult with academic advisor for other courses.

[7]other options include CM 16400, 11000, THTR 25400, 55400.

[8]hands on (not computer) engineering lab; other options include 1 credit engineering lab class ( AAE 20401, AAE 33301, CE 34300, ME 30801 etc.); 1 credit from a 2 credit engineering lab class (BME 30600, NUCL 20500, etc.); 1 credit from a 3 credit engineering class that includes a lab (ABE 30500, IE 38600, MSE 23500, etc.); 1 credit from a 4 credit engineering class that includes a lab ( CE 20300, CHE 37700, ECE 27000 etc.). Consult academic advisor for list of engineering lab courses.

[9]other option MA 26500 + MA 26600

[10]other option CE 29800

[11]Humanities University foundational outcome. Courses can be found at: http://www.purdue.edu/provost/initiatives/curriculum/course.html

[12]other "materials course" options include MSE 23000, AAE 20400, ABE 30500, CHE 33000, ME 32300 (CODO from ME only)

[13]other options include AAE 33300, ME 30800, CHE 37700, MSE 3400

[14]Choose an engineering class from the following: ECE 30100, ECE 31100, ECE 41200, ECE 41400

[15]Behavioral/Social Sciences University foundational outcome. Courses can be found at: http://www.purdue.edu/provost/initiatives/curriculum/course.html

[16]General education courses can be taken from the College of Liberal Arts, the Krannert School of Management, the Honors College, etc. provided such courses are not focused primarily on engineering, technology, the natural sciences, or mathematics. Consult with academic advisor for acceptable general education courses.

[17]other options include IE 23000, IE 3300

[18] Engineering electives are chosen based on a student's educational objectives. Consult with academic advisor.

[19]Science Technology and Society University foundational outcome. Courses can be found at: http://www.purdue.edu/provost/initiatives/curriculum/course.html If EPCS is used to satisfy this outcome, 3 credits of EPCS must be taken.

[20]other option IE 34300

[21]other capstone design option instead of IDE 48400 + IDE 48500 is EPCS 41200 + EPCS 41200. Consult with academic advisor.

**Additional Requirements**:

A course listed on the Concentration Guideline *is not a guarantee that the course will be accessible/made available to a student*. Lack of availability could be due to any number of circumstances beyond the control of either student or program.

Engineering credits: A minimum 45 credits at 200+ level, of which at least 18 credits are at 300+ level and 6 credits of the 18 must be at 400+ level. Maximum number of credits in any engineering discipline is 24. It is the student's responsibility to see that all prerequisites are met for selected courses.

30 credits must be Math and Basic Science (MA, BIOL, CHM, PHYS, EAPS, SLHS are some examples)

32 credits at 300+ level (any courses) must be taken at Purdue West Lafayette.

3 credits of "hands-on" (not computer lab) required. 2 credits must be engineering (See footnote 6). The third credit may be engineering on non-engineering. A non-engineering lab credit would be included in an AREA class. Some examples are BIOL, CHM, or PHYS lab classes **or** THTR and AD classes that include a studio component. Consult academic advisor for details.

***Updated: 08/14/2023***