

**ARCHITECTURAL ENGINEERING MAJOR**  
**Program Tracking Sheet**  
 Effective for students entering in AY 2022-2023

|          |                        |
|----------|------------------------|
| Name:    | Class Year:            |
| Advisor: | 2 <sup>nd</sup> Major: |

**NOTES:** Minimum total academic credit = 15 units  
 Residency Req.: Min. of 8 units must be completed at WPI

**HUMANITIES AND ARTS (6/3 unit)**  
 All 5 HUA courses must be completed before beginning the Inquiry Seminar or Practicum.

| <b>Depth Component</b>  |                    |      |       |       |
|---|--------------------|------|-------|-------|
| Students must complete at least three thematically-related courses prior to the culminating Inquiry Seminar or Practicum in the same thematic area. At least one of the three courses should be at the 2000-level or above. |                    |      |       |       |
|   | Course             | Term | Grade | Units |
| 1   |                    |      |       | 1/3   |
| 2   |                    |      |       | 1/3   |
| 3   |                    |      |       | 1/3   |
| 4   | HU 3900 or HU 3910 |      |       | 1/3   |
| <b>Breadth Component</b>  |                    |      |       |       |
| Students must take at least one course outside the grouping in which they complete their depth component. To identify breadth, courses are grouped in the following manner.   |                    |      |       |       |
| i. art/art history, drama/theatre, and music (AR, EN/TH, MU);   |                    |      |       |       |
| ii. foreign languages (AB, CN, EN, GN, SP);   |                    |      |       |       |
| iii. literature and writing rhetoric (EN, WR, RH);  |                    |      |       |       |
| iv. history and international studies (HI, HU, INTL);   |                    |      |       |       |
| v. philosophy and religion (PY, RE).  |                    |      |       |       |
| Exception: May take all six courses in a foreign language   |                    |      |       |       |
| 5   |                    |      |       | 1/3   |
| <b>Humanities Elective</b>  |                    |      |       |       |
| 6   |                    |      |       | 1/3   |

| <b>PHYSICAL EDUCATION (4 PE classes = 1/3 unit)</b> |  |  |  |      |
|---|--|--|--|------|
|   |  |  |  | 1/12 |
| 7   |  |  |  | 1/12 |
|   |  |  |  | 1/12 |
|   |  |  |  | 1/12 |

| <b>SOCIAL SCIENCE (2/3 unit) ECON, ENV, GOV, PSY, SD, SOC, SS, STS, DEV and ID2050</b> |  |  |  |     |
|--|--|--|--|-----|
| 8  |  |  |  | 1/3 |
| 9  |  |  |  | 1/3 |

| <b>THE INTERACTIVE QUALIFYING PROJECT (1 unit)</b> |  |  |  |     |
|--|--|--|--|-----|
| 10   |  |  |  | 1/3 |
| 11   |  |  |  | 1/3 |
| 12   |  |  |  | 1/3 |

| <b>MATHEMATICS AND BASIC SCIENCES (4 units)</b>       |                              |  |  |     |
|---|------------------------------|--|--|-----|
| <b>MATHEMATICS (7/3 unit) Courses with prefix: MA</b> |                              |  |  |     |
| 13  | MA 1021 (Calc 1)             |  |  | 1/3 |
| 14  | MA 1022 (Calc 2)             |  |  | 1/3 |
| 15  | MA 1023 (Calc 3)             |  |  | 1/3 |
| 16  | MA 1024 (Calc 4)             |  |  | 1/3 |
| 17  | MA 2051 (Diff Eqs)           |  |  | 1/3 |
| 18  | MA 2071 (Lin Alg)            |  |  | 1/3 |
| 19  | MA 2611 (Applied Statistics) |  |  | 1/3 |

| <b>PHYSICS (2/3 unit) Courses with prefix: PH</b> |                          |  |  |     |
|---|--------------------------|--|--|-----|
| 20  | PH 1110/1111 (Mechanics) |  |  | 1/3 |
| 21  | PH 1120/1121 (E&M)       |  |  | 1/3 |

| <b>CHEMISTRY (1/3 unit) Course with prefix: CH</b> |                                   |  |  |     |
|--|-----------------------------------|--|--|-----|
| 22   | CH 1010 (Chem 1) or 1020 (Chem 2) |  |  | 1/3 |

| <b>MATH AND BASIC SCIENCE ELECTIVES (2/3 unit)</b>   |  |  |  |     |
|--|--|--|--|-----|
| Must include 1/3 unit in Thermodynamics (Note 1). Must include 1/3 unit in fluid mechanics (can be fulfilled by ES 3004) |  |  |  |     |
| 23   |  |  |  | 1/3 |
| 24   |  |  |  | 1/3 |

| <b>ARCHITECTURAL ENGINEERING SCIENCE AND DESIGN (7 units) (Note 2, 3, 4)</b> |                                      |  |  |     |
|--|--------------------------------------|--|--|-----|
| <b>ARCHITECTURAL ENGINEERING COMPLEMENTS (2/3 units)</b>                     |                                      |  |  |     |
| 25   | AR 2114 Mod Arch in the American Era |  |  | 1/3 |
| 26   | AREN 2023 Intro to AREN Systems      |  |  | 1/3 |

| <b>CONSTRUCTION/CONSTRUCTION MANAGEMENT (2/3 units)</b> |                     |  |  |     |
|---|---------------------|--|--|-----|
| 27  | CE 3025 or OIE 2850 |  |  | 1/3 |
| 28  | CE 3022 or CE 3020  |  |  | 1/3 |

| <b>BUILDING MECHANICAL SYSTEMS (5/3 units)</b> |   |  |  |     |
|--|---|--|--|-----|
| 29   | AREN 3024 Building Physics                                    |  |  | 1/3 |
| 30   | AREN 3003 Principles of HVAC design for buildings             |  |  | 1/3 |
| 31   | AREN 3006 Advanced HVAC Design                                |  |  | 1/3 |
| 32   | AREN 3020 Architectural Design IV- Building Energy Simulation |  |  | 1/3 |
| 33   | AREN 3022 Architectural Design V- Building Envelope Design    |  |  | 1/3 |

| <b>BUILDING ELECTRICAL SYSTEMS (2/3 units)</b> |   |  |  |     |
|--|---|--|--|-----|
| 34   | AREN 2025 Building Electrical Systems                         |  |  | 1/3 |
| 35   | AREN 2004 Architectural Design II- Light and Lighting Systems |  |  | 1/3 |

| <b>BUILDING STRUCTURAL ENGINEERING (5/3 units) (Note 2)</b> |   |  |  |     |
|---|---|--|--|-----|
| 36  | CE 2000 Analytical Mechanics I              |  |  | 1/3 |
| 37  | CE 2001 Analytical Mechanics II             |  |  | 1/3 |
| 38  | CE 2002 Introduction to Analysis and Design |  |  | 1/3 |
| 39  |   |  |  | 1/3 |
| 40  |   |  |  | 1/3 |

| <b>GENERAL ARCHITECTURAL DESIGN (2/3 units)</b> |                                    |  |  |     |
|---|------------------------------------|--|--|-----|
| 41  | AREN 2002 Architectural Design I   |  |  | 1/3 |
| 42  | AREN 3002 Architectural Design III |  |  | 1/3 |

| <b>MAJOR QUALIFYING PROJECT (1 unit) (Note 3)</b> |  |  |  |     |
|---|--|--|--|-----|
| 43  |  |  |  | 1/3 |
| 44  |  |  |  | 1/3 |
| 45  |  |  |  | 1/3 |

- Note 1:** Thermodynamics can be fulfilled by PH 2101 or other approved equivalent course such as ES 3001.
- Note 2:** The additional two structural engineering courses should be two design level structural engineering courses (such as CE 3006, 3008, 3010, or 3044)
- Note 3:** Must include the Capstone Design activity through the MQP that achieves design proficiency in either the structural or mechanical area.
- Note 4:** Must include 1/3 unit in Experimentation (fulfilled by AREN 3003, AREN 3020, ME 3901, CE 3026 or approved equivalent).
- Note 5:** GPS courses can only be used to fulfill the HUA, SSPS, or the Free Elective Requirements.