# ARCHITECTURAL ENGINEERING MAJOR
## Program Tracking Sheet
**Effective for students entering in AY 2021-2022**

<table>
<thead>
<tr>
<th>Name:</th>
<th>Class Year:</th>
<th>Advisor:</th>
<th>2nd Major:</th>
</tr>
</thead>
</table>

**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.

### Depth Component
- 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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Term</th>
<th>Grade</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HU 3900 or HU 3910</td>
<td>1/3</td>
<td>1/3</td>
<td></td>
</tr>
</tbody>
</table>

### Breadth Component
- 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).

**Humanities Elective**

1. PHYSICAL EDUCATION (4 PE classes = 1/3 unit)
   - 1/12
   - 1/12
   - 1/12

2. SOCIAL SCIENCE (2/3 unit)
   - ECON, ENV, GOV, PSY, SD, SOC, SS, STS
   - ID2050
   - 1/3
   - 1/3

3. THE INTERACTIVE QUALIFYING PROJECT (1 unit)
   - 1/3
   - 1/3

4. MATHEMATICS AND BASIC SCIENCES (4 units)
   - MA 1021 (Calc 1)
   - MA 1022 (Calc 2)
   - MA 1023 (Calc 3)
   - MA 1024 (Calc 4)
   - MA 2051 (Diff Eqs)
   - MA 2071 (Lin Alg)
   - MA 2611 (Applied Statistics)

5. PHYSICS (2/3 unit)
   - PH 1110/1111 (Mechanics)
   - PH 1120/1121 (E&M)

6. CHEMISTRY (1/3 unit)
   - CH 1010 (Chem 1) or 1020 (Chem 2)

**Note:** Must include 1/3 unit in Thermodynamics (Note 1). Must include 1/3 unit in fluid mechanics (can be fulfilled by ES 3004).

7. MATH AND BASIC SCIENCE ELECTIVES (2/3 unit)
   - Ce 3025 or OIE 2850
   - CE 3022 or Ce 3020
   - 1/3

**ARCHITECTURAL ENGINEERING SCIENCE AND DESIGN** (7 units)

- AR 2114 Mod Arch in the American Era
- AREN 2023 Intro to AREN Systems

**ARCHITECTURAL ENGINEERING COMPLEMENTS** (2/3 units)

- AR 2114 Mod Arch in the American Era
- AREN 2023 Intro to AREN Systems

**BUILDING MECHANICAL SYSTEMS** (5/3 units)

- AREN 3024 Building Physics
- AREN 3003 Principles of HVAC design for buildings
- AREN 3006 Advanced HVAC Design
- AREN 3020 Architectural Design IV-Building Energy Simulation
- AREN 3022 Architectural Design V-Building Envelope Design

**BUILDING ELECTRICAL SYSTEMS** (2/3 units)

- AREN 3025 Building Electrical Systems
- AREN 3004 Architectural Design II-Light and Lighting Systems

**BUILDING STRUCTURAL ENGINEERING** (5/3 units)

- CE 3000 Analytical Mechanics I
- CE 3001 Analytical Mechanics II
- CE 3002 Introduction to Analysis and Design
- 1/3

**GENERAL ARCHITECTURAL DESIGN** (2/3 units)

- AREN 3002 Architectural Design I
- AREN 3002 Architectural Design II

**MAJOR QUALIFYING PROJECT** (1 unit)

- 1/3

**Note 1:** Can be satisfied with PH 2101 as a Mathematics and Basic Science Elective, or ES 3001, Introduction to Thermodynamics as a Free Elective, or other approved equivalent course.

**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 3025, 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.