

Name _____
 ASU ID _____
 Anticipated Grad. Date _____

Major: Mechanical Engineering Degree BSE
 Concentration: Computational and Mathematical Mechanics
 AGEC-A, AGEC-B, AGEC-S; Completed: Yes No

| ASU Requirement for all incoming Freshmen | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------|----|
| ASU 101 The ASU Experience | 1 credit | | |
| I. English Proficiency (6 hrs) (University requirement – “C” min required) | | | |
| +ENG 101 / 107 First-Year Comp (3) and +ENG 102 / 108 First-Year Comp (3) | Hrs Cr ASU Tr | Trans From | Gr |
| Or , if eligible (see Catalog for eligibility), +ENG 105 Adv First-Year Comp (3) and An Applicable Elective (3) – see Department | | | |
| Sub Total (I) _____ | | | |

| II. General Requirements (15 hrs) (See Catalog for approved courses) | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--|--|
| A. Humanities & Social Sciences (15 hrs min) (Required: 1 course upper division; plus a minimum of two courses that satisfy three awareness areas: cultural (C), global (G), and historical (H). Double counting is permissible between HU or SB and the awareness areas and also within the awareness areas.) | | | |
| Humanities, Fine Arts, and Design (6 hrs min)(HU) | | | |
| PHI 103 Princ of Sound Reasoning (HU) | 3 | | |
| Social/Behavioral Sciences (6 hrs min)(SB) | | | |
| Awareness Areas | | | |
| Cultural | | | |
| Global | | | |
| Historical | | | |
| B. Literacy/Critical Inquiry (6 hrs) | | | |
| #L: MAE 491 Experimentl Mech Engr | Satisfied by Courses in Major | | |
| #L: MAE 400 Engineering Profession | | | |
| C. Natural Sciences/Basic Sciences (8 hrs) | | | |
| +SQ: PHY 121/122 Physics I/Lab I | Satisfied by Courses in Major | | |
| +SQ: PHY 132 Physics Lab II | | | |
| D. Mathematical Studies (6 hrs) – mark after taken | | | |
| #CS: MAE 100 Intro to ME & AE | Satisfied by Courses in Major | | |
| +MA: MAT 275 Modern Diff Eqs | | | |
| Sub Total (II) _____ | | | |

| III. Required Lower Division Courses (52 hrs) | | | |
|-------------------------------------------------------------------|---|--|--|
| A. Natural Sciences/Basic Sciences (15 hrs) | | | |
| BME 111 Engr Persp on Bio Sys or other approved BIO course | 3 | | |
| +CHM 114, 115 ^{1,2} , or 116 ³ Chemistry (SQ) | 4 | | |
| + PHY 121 Physics I (SQ) ³ | 3 | | |
| + PHY 122 Physics Lab I (SQ) ³ | 1 | | |
| + PHY 131 Physics II (SQ) ³ | 3 | | |
| + PHY 132 Physics Lab II (SQ) ³ | 1 | | |
| B. Mathematical Studies (12 hrs) | | | |
| +MAT 265 Calc for Engrs I | 3 | | |
| +MAT 266 Calc for Engrs II | 3 | | |
| +MAT 267 Calc for Engrs III | 3 | | |
| +MAT 275 Mod Diff EQ (MA) | 3 | | |

| # C. Lower Division Engr(22 hrs) | Hrs Cr ASU Tr | Trans From | Gr |
|-----------------------------------|------------------|---------------|----|
| +MAE 100 Intro to ME & AE (CS) | 3 | | |
| +MAE 212 Engineering Mechanics | 4 | | |
| MAE 213 Mechanics of Solids | 3 | | |
| MAE 214 CAE I | 1 | | |
| MAE 240 Thermofluids I | 4 | | |
| MSE 250 Struc & Prop of Materials | 3 | | |
| EEE 202 Circuits I | 4 | | |
| Sub Total (III) _____ | | | |

| IV. Required Upper Division Courses (47 hrs) | | | |
|------------------------------------------------------------------------|---|--|--|
| #CSE 100 Princ of Prog with C++ OR #CSE 110 Princ of Prog with Java | 3 | | |
| # MAE 318 Sensors and Controls | 5 | | |
| # MAE 322 Structural Mechanics | 4 | | |
| # MAE 323 CAE II | 2 | | |
| # MAE 340 Thermofluids II | 3 | | |
| #MAE 342 Principles of Design | 3 | | |
| #MAE 384 Numerical Methods (CS) | 3 | | |
| #MAE 400 Engineering Profession (L) | 3 | | |
| #MAE 488 ME Design I | 3 | | |
| #MAE 489 ME Design II | 3 | | |
| #MAE 491 Experimental Mech Engr (L) | 3 | | |
| +MAT 343 Applied Linear Algebra | 3 | | |
| # Technical Electives (12 hrs) ⁴ | | | |
| Sub Total (IV) _____ | | | |

Total Upper Division _____ (minimum 45 required)
 + A minimum grade of “C” (2.0) required
 # Designates Major Course: A minimum cumulative GPA of 2.00 required
 Designates a skill-set course
¹ Only 4 hours of CHM 115 will apply toward degree credit
² CHM 113 is prerequisite and does not apply toward degree credit
³ Must complete lecture and lab to receive SQ credit
⁴ Must choose technical electives from the approved list for this concentration

Graduation Requirements
 Regular Curriculum – 120 Hours

| Semester Hour Summary | Hrs/ASU | Tr Hrs | Total |
|------------------------------|---------|--------|-------|
| I. English Proficiency | | | |
| II. General Requirements | | | |
| III. Required Lower Division | | | |
| IV. Required Upper Division | | | |
| Total Program Hours | | | |