

Systems and Industrial Engineering (SIE) Accelerated Masters of Science Program (AMP)

September 26, 2009

- SIE AMP Committee
 - Coordinator: Dr. Young-Jun Son, SIE Graduate Studies Committee Chair
 - Other members: Dr. Guzin Bayraksan, Dr. Esra Buyuktahtakin, Dr. Feiyue Wang, SIE Graduate Studies Committee Members

- Undergraduate Majors that Would be Eligible for SIE AMP
 - SIE undergraduates (majoring SE, IE, EM)

- SIE AMP Admission Requirements
 - Completion of a minimum of 75 undergraduate credit hours is required at the time of application; a minimum of 90 undergraduate credit hours is required at the time of entry into the AMP. If the student's GPA falls below 3.3 at the time they have completed 90 units, the student will not be admitted into the program. Courses taken for audit may not be included in the total number of units counted for eligibility or admission
 - Students whose cumulative GPA on a minimum of 12 units of undergraduate credit hours at UA is equal or above 3.3 can apply
 - Completion of at least 12 earned undergraduate credits in their major (SE, IE, EM) at The University of Arizona's main campus. Units still graded Incomplete, units graded Pass/Fail or units taken as audit will not count toward the requirement of the 12 undergraduate units
 - Completion, or near completion, of general education requirements at the time of application
 - Students who have taken the MS prerequisite courses, including SIE305 (Introduction to Probability and Statistics) and at least two out of SIE321 (Probabilistic Models in Operations Research), SIE340 (Deterministic Models in Operations Research), SIE350 (Modeling and Analysis of Systems Dynamics), can apply; courses equivalent to these prerequisites taken at other departments or institutions will be allowed
 - Regular application requirements for the MS program (e.g. statement of purpose, GRE scores, plan of study, submission of a UA graduate application and graduate application fee) apply – refer to the SIE graduate handbook (<http://www.sie.arizona.edu/>) for requirements
 - Demonstration of the maturity necessary for success in an accelerated, highly competitive program
 - Expectation to complete the undergraduate degree within four years. The undergraduate degree requirements must be completed before the student is eligible to have the Master's degree awarded

- SIE AMP Degree Requirements



- Once students are admitted to AMP, they are strongly suggested to see the AMP coordinator to discuss their plan
- Students must select an advisor, and submit a thesis/report plan and plan of study before the end of the first semester after admitted to AMP
- Writing a thesis or a report is required
- SIE 400 level courses that are convened with 500 level courses (e.g. SIE406/506, SIE430/530, SIE431/531, SIE454/554, SIE483/583) and are required undergraduate courses (e.g. SIE431) cannot be counted toward the MS degree; in other words, SIE531 cannot be counted toward students' MS degree, but SIE583 can do so
- Students will be considered undergraduates until they complete their undergraduate requirements, which should be no later than the end of the fourth year. Students entering with Advanced Placement Credit or who attend summer school would likely graduate with their Bachelor's in the 3rd year. Students must take at least 12 of their graduate credits while in graduate status. In other words,
 - During years 1-3 (or approximately 0-90 credits) students will be taking undergraduate coursework and charged at the undergraduate rate
 - Once admitted to AMP, during the senior (or transition year), they may take up to 12 units of graduate coursework which may apply toward both the Bachelor's and the Master's degrees. Students will be charged at the undergraduate rate and retain eligibility for undergraduate scholarships
 - After completion of all Bachelors' requirements, students will be granted graduate status, be charged at the graduate rate, and be eligible for graduate assistantships. The student won't be eligible to graduate nor will they be eligible for assistantships until all Bachelors' requirements are completed. While an undergraduate, students are required to keep their graduate coursework cumulative GPA at 3.0 or higher to be admitted to the M.S.
 - Should a student have completed 12 graduate credits, but not yet completed the undergraduate degree, they will be considered graduate for financial aid and tuition purposes and coded as 'graduate' in SIS. They will no longer be eligible for undergraduate scholarships. Nor will they be eligible for graduate assistantships
 - At least 12 graduate credits must be taken while in graduate status, after completing all degree requirements for the Bachelor's
 - Students should be encouraged to complete their undergraduate requirements as soon as possible, but not later than one semester before receiving their master's. Students finishing their undergraduate requirements later than one semester before receiving their master's they will no longer be eligible for undergraduate scholarships. Nor will they be eligible for graduate assistantships. Neither degree will be awarded until the undergraduate requirements are completed along with the Master's requirements



Sample Plan 1: BS in IE and MS in SE

| | | | |
|----------------------------------|-------|----------------------------------|-------|
| Semester 1 | Units | Semester 2 | Units |
| ENGR 102 | 3 | ECE 175 | 3 |
| MATH 125 or 124 | 3/5 | CHEM152 or MSE110 or MCB181 | 4 |
| CHEM 151 | 4 | MATH 129 | 3 |
| ENGL 101 | 3 | PHYS 141 | 4 |
| Tier 1 INDV* | 3 | ENGL 102 | 3 |
| Total | 16/18 | Total | 17 |
| Semester 3 | Units | Semester 4 | Units |
| SIE 250 | 3 | SIE 265 | 3 |
| SIE 277 | 3 | SIE 270 | 3 |
| MATH 223 | 4 | SIE 295S | 1 |
| PHYS 241 | 4 | ENGR 211 | 4 |
| Tier 1 TRAD* | 3 | Tier 1 INDV* | 3 |
| | | Tier 1 TRAD* | 3 |
| Total | 17 | Total | 17 |
| Semester 5 | Units | Semester 6 | Units |
| SIE 305 | 3 | SIE 321 | 3 |
| SIE 340 | 3 | SIE 330R | 3 |
| SIE 377 | 3 | SIE 370 | 4 |
| SIE 410A | 3 | SIE 383 | 3 |
| ENGL 308 | 3 | | |
| Total | 15 | Total | 13 |
| Semester 7 | Units | Semester 8 | Units |
| SIE 431 | 3 | ENGR 498B | 3 |
| SIE 462 | 3 | SIE 5xx (e.g. SIE 550)*** | 3 |
| SIE 5xx (e.g. SIE 554)*** | 3 | SIE 5xx (e.g. SIE 540 or 546)*** | 3 |
| ENGR 498A | 3 | Select from list** | 3 |
| SIE 5xx (e.g. SIE 543 or 583)*** | 3 | Tier 2 Art/Hum* | 3 |
| Tier 2 INDV* | 3 | | |
| Total | 18 | Total | 15 |
| Total BS/IE | 128 | | |
| Semester 9 | Units | Semester 10 | Units |
| SIE 530 | 3 | SIE 550 or SIE 5xx*** | 3 |
| SIE 554 or SIE 5xx*** | 3 | SIE 5xx*** | 3 |
| Thesis | 3 | Thesis | 3 |
| Total | 9 | Total | 9 |
| Total MS/SE | 30 | | |

* INDV/TRAD courses must meet University general education requirements.

** BNAD 302, PSYC 319, 325, 326, 346, 352, 360, 375, or 376.

*** Courses must be selected considering a primary and a secondary area of concentration, and they must be approved by the student's faculty advisor. Refer to the SIE graduate handbook for more details.



Sample Plan 2: BS in EM and MS in SE

| Semester 1 | Units | Semester 2 | Units |
|----------------------------------|-------|----------------------------------|-------|
| ENGR 102 | 3 | ECE 175 or CSC 127a | 3 |
| MATH 125 or 124 | 3/5 | CHEM152 or MSE110 | 4 |
| CHEM 151 | 4 | MATH 129 | 3 |
| ENGL 101 | 3 | ENGR 102 | 3 |
| Tier 1 INDV* | 3 | Tier 1 INDV* | 3 |
| Total | 16/18 | Total | 16 |
| Semester 3 | Units | Semester 4 | Units |
| SIE 223 | 4 | CE 214 | 3 |
| CHEE 201 or AME 230 | 3 | PHYS 241 | 4 |
| PHYS 141 | 4 | MATH 254 | 3 |
| Tier 1 TRAD* | 3 | Tier 1 INDV | 3 |
| SIE 265 | 3 | Tier 2 INDV | 3 |
| Total | 17 | Total | 16 |
| Semester 5 | Units | Semester 6 | Units |
| SIE 305 or CE 310 | 3 | Tech Area Elect** | 3 |
| SIE 340 | 3 | Tech Area Elect** (e.g. SIE 383) | 3 |
| ECE 207 | 3 | SOC 326 or ENGR 452 | 3 |
| COMM 312 or ENGL 307 | 3 | SIE 467 | 3 |
| Tech Area Elect** | 3 | SIE 431 | 3 |
| Total | 15 | Total | 15 |
| Semester 7 | Units | Semester 8 | Units |
| SIE 462 | 3 | ENGR 454 | 3 |
| SIE 498A | 2 | SIE 498B | 3 |
| SIE 5xx (e.g. SIE 543)*** | 3 | ECON 330 | 3 |
| SIE 5xx (e.g. SIE 554 or 583)*** | 3 | SIE 5xx (e.g. SIE 550 or 540)*** | 3 |
| SIE 415 | 3 | ENGR 495S | 1 |
| MIS 465 or SIE 406 | 3 | Tier 2 Art/Hum* | 3 |
| Total | 17 | Total | 16 |
| Total BS/EM | 128 | | |
| Semester 9 | Units | Semester 10 | Units |
| SIE 530 | 3 | SIE 550 or SIE 5xx*** | 3 |
| SIE 554 or SIE 5xx*** | 3 | SIE 5xx*** | 3 |
| SIE 554 or SIE 5xx*** | 3 | Thesis | 3 |
| Thesis | 3 | | |
| Total | 12 | Total | 9 |
| Total MS/SE | 30 | | |

* INDV/TRAD courses must meet University general education requirements.

** Tech area electives to be chosen with an advisor to emphasize an industry or professional area of interest to the student.

*** Courses must be selected considering a primary and a secondary area of concentration. Refer to the SIE graduate handbook for more details.

