Students in the MSTM program are required to complete a total of 60.0 units over the course of two years of study. Of the 60.0 total units, students must complete 12.0 units of core courses, 3.0 units of professional development courses, 12.0 units of advanced technical and general elective courses, 3.0 units of Independent Research, and 30.0 units of the Research Thesis.

**A summary of the MSTM curriculum is as follows:**

|  |  |
| --- | --- |
| Core Science (C) | 12.0 units |
| Professional Development (PD) | 3.0 units |
| Advanced Technical (AT) and General (G) Electives | 12.0 units |
| Independent Research  | 3.0 units |
| Research Thesis Capstone | 30.0 units |
| **Total** | **60.0 units** |
| **Curriculum:** All students must complete the following courses: core science (C), professional development (PD), advanced technical (AT), independent research and thesis capstone in order to graduate with the MSTM degree. The ALS 342 and ALS 360 requirements could be waived for students who pass the initial assessment. Waived units must be replaced with advanced technical or general elective units. Thesis contracts must be submitted during April/May of the first year of the studies. Please refer to the ALS 496 MSTM Research Thesis syllabus for more information. The students are also required to complete a MSTM professional mentorship program. Courses in brown are held at KGI, and courses in blue take place at City of Hope. |
| **Year 1** |
| **Fall**  | **Units** |  | **Spring**  | **Units** |
| ALS 300 Molecular Biotechnology (C) | 1.5 |  | ALS 402 Molecular Basis of Disease (C) | 3.0 |
| ALS 330 Pharmaceutical Discovery (C) | 1.5 |  | ALS 407a Pharmacogenomics and Precision Medicine (AT) | 1.5 |
| ALS 333 Pharmaceutical Development (C) | 1.5 |  | ALS 407b Advanced Pharmacogenomics and Precision Medicine (AT) | 1.5 |
| ALS 434 Clinical Biostatistics (AT) | 3.0 |  | ALS 430a Advanced Pharmaceutical Discovery (AT) | 1.5 |
| ALS 481a Fundamental Papers in Applied Medicine (C) | 1.5 |  | ALS 430b Advanced Pharmaceutical Discovery Lab (AT) | 1.5 |
| ALS 360 Business/Science Communications (PD) | (1.5) |  | ALS 481b Fundamental Papers in Applied Medicine (C) | 1.5 |
| ALS 342 Applications of Statistics (C) | (1.5) |  | ALS 493 Independent Research  | 1.5 |
| ALS 493 Independent Research  | 1.5 |  |  |  |
| Electives (To be taken either Fall and/or Spring) |  |
| **Summer** | **Units** |  |  |  |
| ALS 496 MSTM Research Thesis  | 0.0 |   |  |
| **Year 2** |
| **Fall** | **Units** |  | **Spring** | **Units** |
| ALS 496 MSTM Research Thesis | 15.0 |  | ALS 496 MSTM Research Thesis | 15.0 |
| ALS 397 Professional Development (PD) | 0.0 |  | ALS 341 Healthcare/Life Sciences Industry Ethics (PD) | 1.5 |