Students in the MS program are required to complete a total of 54.0 units over the course of two years of study. Of the 54.0 total units, students must complete 12.0 units of core courses, 3.0 units of professional development courses, and 39.0 units of elective courses. The MS students have an option of declaring a concentration which would provide depth to their degree. Three concentrations are available to MS in Applied Life Sciences students. They are Translational Research Thesis (TR), Clinical Research Thesis (CR), and Team Master’s project (TMP). Each concentration requires completion of 15.0 units comprised of a capstone project (12.0 units) plus 3.0 units of concentration-required course(s).

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

|  |  |
| --- | --- |
| Core Courses | 12.0 units |
| Professional Development | 3.0 units |
| Electives (including the following intersecting requirements) | 39.0 units |
| Advanced Technical and General (27.0 units including concentration-required) |
| Capstone (12.0 units of Thesis / TMP) |
| **Total** | **54.0 units** |

**Core Science Courses:** All students must complete the core courses in order to complete the MS degree. The ALS 342 requirement will be waived for students who pass the initial statistics assessment. Waived units must be replaced with general elective units.

|  |  |
| --- | --- |
| ALS 300 Molecular Biotechnology | 1.5 units |
| ALS 330 Pharmaceuticals Discovery  | 1.5 units |
| ALS 333 Pharmaceutical Development | 1.5 units |
| ALS 342 Applications of Statistics | 1.5 units |
| ALS 402 Molecular Basis of Disease | 3.0 units |
| ALS 407 Pharmacogenomics and Precision Med. | 3.0 units |
| **Total** | **12.0 units** |

|  |  |
| --- | --- |
| ALS 341 Bioindustry Ethics and Society | 1.5 units |
| ALS 360 Business/Science Communications | 1.5 units |
| ALS 397 Professional Development | 0.0 units |
| **Total** | **3.0 units** |

**Professional Development:** All students must complete 3.0 units of professional development in order to complete the MS degree. The ALS 360 requirement will be waived for students who pass the initial writing assessment. Waived units must be replaced with general elective units. The students are also required to complete an MS professional mentorship program.

**Concentrations:** Below are the three concentrations available to Master of Science in Applied Life Sciences students, Translational Research Thesis (TRT), Clinical Research Thesis (CRT) and a Team Master’s Project (TMP) concentrations. To successfully complete a concentration, a total of 15.0 units comprising of all the required courses in the concentration and a selection from the electives is required in partial fulfilment of the 39.0 total elective units necessary for graduation. Students are encouraged to consult with the MS program director for course selection. To complete the MS degree with a Translational or Clinical research thesis, students must complete 12.0 units of ALS 495 Master’s Thesis Capstone course. Thesis contracts must be submitted during April/May of the first year of studies. Please refer to the ALS 495 Master’s thesis syllabus form more information.

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| ***Translational Research Concentration*** |
| ALS 495 Translational Research Thesis Capstone  | 12.0 units |
| ALS 481a Fundamental Papers in Applied Medicine | 1.5 units |
| ALS 481b Fundamental Papers in Applied Medicine | 1.5 units |
| **Total** | **15.0 units** |

**Note:** Students planning to pursue the Translational Research Concentration are strongly recommended to complete Independent Research / Independent Study during their first year and/or complete a research project during the summer between first and second year. See ALS 495 Master’s thesis syllabus form more information.

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| ***Clinical Research Concentration*** |
| ALS 495 Clinical Research Thesis Capstone  | 12.0 units |
| ALS 380 Medical Terminology | 3.0 units |
| ALS 480 Medical Harm Reduction | 1.5 units |
| **Total** | **16.5 units** |

**Note:** Students planning to pursue the Clinical Research Concentration must applying to participate in the program through KGI-COPE application website. One of the prerequisites to participate in the program is enrollment into ALS 495 Master’s thesis course by the end of May. See ALS 495 Master’s thesis syllabus form more information.

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| ***TMP Concentration*** |
| ALS 400 Team Master’s Project  | 12.0 units |
| ALS 451 Organizational Behavior | 3.0 units |
| **Total** | **15.0 units** |

**Advanced and General Technical Electives:** All MS students are required to complete additional units of any KGI courses, 300-level or 400-level to achieve the required 54.0 unit total. Students are encouraged to consult with the MS program director for course selection. Not all electives are offered every year. Refer to the Henry E. Riggs School of Applied Life Science course list for course designation information.