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. Four concentrations are available to MS in Applied Life Sciences students. They are Translational Research Thesis (TR), Clinical Research Thesis (CR), Public Health Research Thesis (PHRT), 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 Research Thesis / TMP) |
| **Total** | **54.0 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 407a Pharmacogenomics and Precision Medicine | 1.5 units |
| ALS 407b Advanced Pharmacogenomics and Precision Medicine | 1.5 units |
| **Total** | **12.0 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.

**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. Students who have taken ALS 398 as part of their PPC/PPA program are not required to take ALS 397.

|  |  |
| --- | --- |
| ALS 341 Bioindustry Ethics and Society | 1.5 units |
| ALS 360 Business/Science Communications | 1.5 units |
| ALS 397 Professional Development | 0.0 units |
| MS Professional Development Speaker Series: All MS students are required to attend the MS Professional Development Speaker Series | 0.0 units |
| **Total** | **3.0 units** |

**Concentrations:** Below are the four concentrations available to Master of Science in Applied Life Sciences students: Translational Research Thesis (TRT), Clinical Research Thesis (CRT), Public Health Research Thesis (PHRT) and 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, Clinical, or Public Health research thesis, students must complete 12.0 units of ALS 495 Research Thesis capstone course. Thesis contracts must be submitted two (2) weeks prior to the start of the fall semester of the 2nd year of studies. Please refer to the [KGI MS webpage](https://www.kgi.edu/academics/henry-e-riggs-school-of-applied-life-sciences/academic-programs/master-of-science-in-applied-life-sciences/concentrations/) and ALS 495 Research Thesis syllabus form more information.

|  |  |
| --- | --- |
| ***Translational Research Concentration*** | |
| ALS 495 Research Thesis | 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** |

|  |  |
| --- | --- |
| ***Clinical Research Concentration*** | |
| ALS 495 Research Thesis | 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 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 Research Thesis syllabus form more information.

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

|  |  |
| --- | --- |
| ***Public Health Research Concentration*** | |
| ALS 495 Research Thesis | 12.0 units |
| ALS 480 Medical Harm Reduction | 1.5 units |
| ALS 473 Independent Study [Basic Principles of Public Health] | 1.5 units |
| **Total** | **15.0 units** |

**Note:** Students planning to pursue the Public Health Research Concentration must enroll into ALS 495 Research Thesis course by the end of May. See ALS 495 Research Thesis syllabus form more information.

|  |  |
| --- | --- |
| ***TMP Concentration*** | |
| ALS 400 Team Master’s Project | 10.5 units |
| ALS 403 Team Master's Project Management | 1.5 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.