Knowledge
Students who complete the Professional Science Master’s Program in Biotechnology successfully will demonstrate knowledge of the following:

- Molecular biology that is fundamental to biotechnology, including PCR, cloning, sequencing, western blots, Southern and northern blots, microarray techniques, transgenic organisms, gene therapy, and control of gene expression by CRISPR and RNAi.
- Major sectors of the biotechnology industry, including their research and development timelines, financing, and regulatory processes.
- Core principles of accounting, finance, organizational behavior, strategy, project management, and marketing.
- Intellectual property and patents.

Skills
Students who complete the Professional Science Master’s Program in Biotechnology successfully will develop skills in these areas:

- Using modern biological research techniques, including recombinant DNA methods.
- Collecting and analyzing quantitative data, and creating visual representations of data.
- Reading and evaluating print and online sources including peer-reviewed publications, science and business journalism and blogs.
- Critical thinking about management problems, and developing solutions to problems based upon business principles.
- Communicating effectively about scientific observations and opinions, and about business ideas to expert and general audiences both orally and in writing.
- Marketing themselves effectively using resumés and cover letters and at interviews.

Social Justice
Students who complete the Professional Science Master’s Program in Biotechnology successfully will be aware of ethical norms and societal implications of the biotechnology industry and be prepared to evaluate these factors when making decisions in these areas:

- Planning, doing, and reporting scientific research.
- Working in management.