

MEng Program Curriculum

Curriculum

Core courses within the MEng program contain workshops and laboratory courses designed to develop technical knowledge and skills in biopharmaceutical process engineering. The curriculum also includes management and regulatory courses so that graduates will have sufficient knowledge in these areas to operate as professionals in the widest variety of corporate settings, and be productive member of teams under all circumstances.

Tracks

In addition to core coursework, students are assigned to either the engineering or science track, depending on their undergraduate training. Each track contains prerequisite courses that are intended to provide skills in areas that have not been covered by the students in their undergraduate degree courses.

- **Track #1: Engineering Track**—For example, students with degrees in life sciences and little to no mathematical and physical sciences will register on the engineering track. Additional courses for these students in their first year will include mathematical techniques for scientists and engineers, foundation courses on transport phenomena, including momentum, mass, and heat.
- **Track #2: Science Track**—In contrast, students who join the course program with degrees in chemical and mechanical engineering will take additional courses in basic biology and biochemistry in the first year of the MEng program.

Most semester courses are 1.5 credits. A typical 1.5 credit course consists of approximately 24 contact hours plus 60-70 hours for tutorials, small team assignments, course work, seminars, tests, revisions, and private study. The schematic below shows the breakdown of the major components within the program.



KECK GRADUATE INSTITUTE

Riggs School of Applied Life Sciences

Distribution of Course Credits

Courses	Credits (Year 1+2)
Biopharmaceutical processing	19.5
Capstone Design Project (TDP)	12
Quality & Regulatory CMC	6
Life Sciences	6
Professional	6
Foundational (prerequisites)	4.5
Options	6
Total (Year 1+2)	66

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