Applying to the MS Program in Biochemistry & Biotechnology at the University of Missouri-St. Louis

Introduction

We are pleased that you have expressed an interest in enrolling in the MS program in Biochemistry & Biotechnology (BCBT) at UM-St. Louis. This document will give you some background information on the program and guidance on how to apply.

The BCBT program is a cooperative effort of faculty members from the Department of Chemistry & Biochemistry and the Department of Biology. Students in the Biochemistry & Biotechnology Programs are positioned midway between these two Departments. They take more biochemistry and molecular biology courses than would a typical biology or chemistry major.

The BCBT program is several years old. It has grown rapidly, and we currently have approximately 60 students actively taking classes in this program. To date we have awarded over 90 MS degrees. The current students are divided into two groups. There is a cohort of international students (mostly from India and other Asian countries) who are required to be enrolled full-time by the conditions of their visa. There is a second group of US students, most of whom work fulltime in the St. Louis area and are enrolled as part-time students in the BCBT program.

Program Description

The degree requires a minimum of 30 credit hours. Full-time enrollment is 9 credit hours. Thus the degree can be easily completed in 4 semesters. By taking a higher load in one semester and/or taking some courses over the summer, the program can be completed in 3 regular semesters (i.e. 18 calendar months). This is of course subject to course availability/schedule.

The BCBT program supports both a thesis and a non-thesis option. Student are admitted to the non-thesis option. The 30 credit hours of coursework are divided into a 15 credit hour block of required core courses, and 15 credit hours of elective. The current listing of core and elective courses are shown in Attachment 1.

If you wish to pursue a thesis MS degree, you will be asked to interview a few faculty members and identify a faculty member who is prepared to provide lab space and to supervise your thesis research. In the thesis option, you are allowed to count 12 credit hours of Graduate Research (Chem 6905 or Biol 6905) toward the 15 credit hours of electives. If you want a more limited research experience, you have the option of using 5 credit hours of Graduate Research as part of your 15 credit hours of electives within the non-thesis option. A GPA of 3.0 is required in non research courses.

Admission Requirements

We accept applicants with a variety of undergraduate degrees, including biology, chemistry, biochemistry, biotechnology, and pharmacy. You are eligible for regular admission as long as you have completed an undergraduate degree with a minimum 3.0 GPA and have had coursework in organic chemistry, genetics, and biochemistry.

Test Scores. Submission of a GRE score is very strongly recommended. We do not have a fixed minimum required GRE score, but successful applicants to this program typically have a combined (verbal + quantitative) score of approximately 1100 (paper based). A TOEFL (or other equivalent test of English) is required. The minimum scores are 550 (TOEFL paper-based test) or 80 (internet-based test), or a score of 6.5 on the IELTS. In reporting GRE and TOEFL test scores, use institutional code 6889 for the University of Missouri St. Louis and Dept code 0202 for Biochemistry.

3Yr-Undergraduate Degrees. We prefer students with a 4-year undergraduate degree, and students who apply with a 3-year degree are at a distinct disadvantage for admission. This can be overcome by completing some graduate courses in your home country before you apply to the BCBT program, or by scoring well on the GRE and TOEFL exams.

Applications

Students apply on-line at http://www.umsl.edu/admission/apply/preappinfo.htm. There is an application fee of $40.00 USD. In addition to submitting the on-line application, you will be asked to provide three letters of recommendation and official transcripts for all previous university-level courses.

We accept students for admission for both the Fall and Spring semesters. For international students, the application deadlines are May 1 for the Fall semester, with classes beginning in August, and October 1 for the Spring semester, with classes beginning in January. Domestic student deadlines are December 1 and June 1, respectively. We do not admit new students for the summer session. So far we have not had to set a fixed class size for admission. We admit all students who meet the admission standards.

All application materials, including letters and transcripts, are submitted to Graduate Admissions, not to the BCBT program. Once all your application materials have been received, Graduate Admissions will scan them and sent BCBT an electronic file of your application.

Your application will be evaluated by the Admissions Committee for the BCBT program, which will make a recommendation to the Graduate Dean. Your formal acceptance letter will come from the Dean.

Once you are accepted, you will work with our Office of International Student Services (ISS, http://www.umsl.edu/~intelstu/) on all issues related to visas.

Costs and Financial Aid

For tuition figures, see http://www.umsl.edu/cashiers/tuition-fees/index.html. BCBT has no budget for graduate assistantships, and thus is not able to offer financial aid to any students, international or domestic.

Attachment 1

M.S. Degree in Biochemistry & Biotechnology, non-thesis option

Required (15 credit hours):

_____ Chem 4722 *Advanced Biochemistry* (3 credit hours)

_____ Chem 5774 *Bioinformatics* (3 credit hours) **or**

_____ Biol 5436 *Applied Bioinformatics (*3 credit hours)

_____ Biol 6615 *Advanced Biotechnology Laboratory II* (4 credit hours)

_____ Biol 6602 *Advanced Molecular Biology* (3 credit hours) **or**

_____ Biol 6612 *Advanced Molecular Genetics of Bacteria* (3 credit hours)

_____ Biol 6889 *Graduate Seminar* (2 credit hours)

Electives (15 credit hours):

_____ Chem 4733 *Biochemistry Laboratory* (2 credit hours)
_____ Chem 4764 *Interdisciplinary Topics in Biochemistry* (3 credit hours)
_____ Chem 4772 *Physical Biochemistry* (3 credit hours)
_____ Chem 5694 *Special Topics in Organic Chemistry* (3 credit hours), when relevant
_____ Chem 5794 *Special Topics in Biochemistry* (3 credit hours)
_____ Chem 6787 *Problem Seminar in Biochemistry* (1 credit hour)
_____ Chem 6905 *Graduate Research* (1-5 credit hours)
_____ Biol 4842 *Immunobiology* (3 credit hours)
_____ Biol 5069 *Topics in Cellular and Molecular Biology* (1 credit hour)
_____ Biol 6442, *Advanced Developmental Biology* (3 credit hours)
_____ Biol 6550 *Advanced Bacterial Pathogenesis* (3 credit hours)
_____ Biol 6652 *Advanced Virology* (3 credit hours)
_____ Biol 6602 *Advanced Molecular Biology* (3 credit hours)
_____ Biol 6612 *Advanced Molecular Genetics of Bacteria* (3 credit hours)
_____ Biol 6615 *Advanced Biotechnology Laboratory II* (4 credit hours)
_____ Biol 6622 *Advanced Cellular Basis of Disease* (3 credit hours)
_____ Biol 6632 *Advanced Nucleic Acid Structure and Function* (3 credit hours)
_____ Biol 6642 *Advanced Plant Biology Biotechnology* (3 credit hours)
_____ Biol 6699 *Graduate Internship in Biotechnology* (1-4 credit hours)
_____ Biol 6889 *Graduate Seminar* (2 credit hours)
_____ Biol 6905 *Graduate Research* (1-5 credit hours, Maximum of 5 credit hours total)
_____ Biol 6920 *Topics in Biology* (2-5 credit hours), when relevant

** Maximum of 5 credit hours total between Chem 6905 and Biol 6905 Graduate Research courses

A GPA of 3.0 is required in non research coursework.