

SPECIALIZATION MODULES – Course Selection Guidelines

Biochemistry	IMS
<p>Year 2: 3.5 REQUIRED courses</p> <p>0.5 course: Biochemistry 2280A (min. mark of 65%) 0.5 course: Biology 2581B 1.0 course from: Chemistry 2213A and 2223B (min. mark of 65%) or Chemistry 2273A and 2283G 1.0 course from: Biology 2382B, 2290F/G, Chemistry 2211A, 2214B, 2374A, 2384B 0.5 course from: Biology 2244A/B or Statistics 2244A/B</p> <p>Points to consider:</p> <ul style="list-style-type: none"> Choosing Biology 2382B and 2290F/G gives students more flexibility to choose a different Basic Medical Science module after Year 2. Choosing Chemistry 2273A and 2283G and Chemistry 2374A and 2384B gives students the flexibility to consider other Honors Specialization modules offered in conjunction with Chemistry, e.g. Chemical Biology or a BSc Honors degree with an Honors Specialization in Biochemistry and Chemistry. 	<p>Year 2: 3.0 REQUIRED courses</p> <p>0.5 course: Biochemistry 2280A 1.5 courses: Biology 2581B, 2382B and 2290F/G 0.5 course: Chemistry 2213A 0.5 course from: Biology 2244A/B or Statistics 2244A/B</p> <p>Points to consider:</p> <ul style="list-style-type: none"> Completion of Chemistry 2223B or another 2000-level Chemistry is recommended in Year 2 Students could take Pharmacology 2060B in addition to the 3.0 courses above to gauge their interest in this subject area for future study in this discipline. Microbiology and Immunology 2500A/B is the pre-requisite for ALL Microbiology and Immunology courses. This course should be taken in Year 2 if interested in studying this discipline in the future.
<p>Third-year selection: 1.5 courses</p> <p>1.5 courses: Biochemistry 3380G, 3381A and 3382A</p> <p>Points to consider:</p> <ul style="list-style-type: none"> Biochemistry 3385A and 3386B, which are included in the list of 3.0, 3000- or 4000-level Biochemistry courses required in the module, could be taken in third year. 	<p>Year 3: 3.5 courses</p> <p>3.5 basic medical science courses from the list in the online Academic Calendar.</p> <p>Points to consider:</p> <ul style="list-style-type: none"> Of these required courses, students must take at least 2.5 courses from Group 1 and at least 0.5 course from Group 3 (lab course) Including ACB 3319 in this module will increase the total number of courses required to complete the module to 10.0 Students must include courses such that prerequisites are met to take 2.5 4000-level basic medical science courses in fourth year Some 4000-level courses have limited or no spaces available to students in this module. Students should review Access to Courses and Reserved Spaces in 4000-level courses on the BMSc Program website under Courses. Choose your courses wisely - be sure to give yourself many options for 4000-level courses
<p>Fourth-year selection: 3.5 courses</p> <p>1.0 course: Biochemistry 4410A and 4420A 3.0 courses from: Biochemistry 3385A, 3386B, 3390B, 4415B, 4425B, 4450A, 4463G)</p> <p>Points to consider:</p> <ul style="list-style-type: none"> Biochemistry 3385A and 3386B could be taken in third year. 	<p>Year 4: 2.5 courses</p> <p>2.5 courses from: 4000-level basic medical science courses from the list in the online Academic Calendar</p> <p>Points to consider:</p> <ul style="list-style-type: none"> Medical Sciences 4100F/G can be taken to meet the 2.5, 4000-level requirement from the basic medical sciences.- this course is not offered in 2014/15

SPECIALIZATION MODULES – Course Selection Guidelines

Medical Biophysics	Medical Sciences
<p>Year 2: 2.0 REQUIRED courses</p> <p>0.5 course: Computer Science 2035A/B 0.5 course from: Chemistry 2213A/B 0.5 course: Biochemistry 2280A 0.5 course: Biology 2244A/B or Statistical Sciences 2244A/B</p> <p>Points to consider:</p> <ul style="list-style-type: none"> It is suggested that students take Medical Biophysics 3330F in second year to explore a potential interest in this subject area but it can left until Year 3. Students who wish to maintain the flexibility to change to another module offered by the Basic Medical Sciences should consider taking Chemistry 2223A/B Physics 2101A/B and 2102A/B or Physiology 2130 can be taken in Year 2 Physics 2101A/B and 2102A/B are the pre-requisites for some 4000-level Medical Biophysics courses 	<p>Admission to this module was discontinued.</p>
<p>Third-year selection: 3.0 – 4.5 courses</p> <p>3.0 courses: Medical Biophysics 3330F, 3501F, 3503G, 3505F, 3507G, 3645A/B 1.0 courses from: Physics 2101A/B and 2102A/B or Physiology 2130, if not completed in Year 2 0.5 courses from: Applied Mathematics 2402A, 2811B, 2813B, 3615A/B, Biology 2290F/G, 2382B, 2581B, Chemistry 2214A/B, 2223B, Mathematics 1600A/B, other 3000- or 4000-level Medical Biophysics courses (except 4970E, 4971E), Pathology 3240A, 3245B, Physics 2101A/B, 2102A/B, 2110A/B, Physiology 2130.</p> <p>Points to consider:</p> <ul style="list-style-type: none"> Courses included in the “1.5 courses from” list above could be taken in second, third or fourth year depending on the student’s timetable and workload. 	<p>Admission to this module was discontinued.</p>
<p>Fourth-year selection: 2.5 courses</p> <p>1.5 course from: Medical Biophysics 4445A/B, 4455A/B, 4467A/B, 4475A/B, 4535A/B 1.0 courses from: Applied Mathematics 2402A, 2811B, 2813B, 3615A/B, Biology 2290F/G, 2382B, 2581B, Chemistry 2214A/B, 2223B, Mathematics 1600A/B, other 3000- or 4000-level Medical Biophysics courses (except 4970E, 4971E), Pathology 3240A, 3245B, Physics 2101A/B, 2102A/B, 2110A/B, Physiology 2130.</p> <p>Points to consider:</p> <ul style="list-style-type: none"> Courses included in the “1.5 courses from” list above could be taken in second, third or fourth year depending on the student’s timetable and workload. 	<p>Fourth-year selection: 2.5 courses from the Basic Medical Sciences are recommended including 1.0 course at the 4000-level.</p> <p>Points to consider:</p> <ul style="list-style-type: none"> Students must include courses so that they will have 2.0 courses in one discipline by the end of fourth year (e.g. 2.0 Physiology courses) and 2.0 courses in a second discipline or combination of disciplines, and 1.5 in any discipline Pathology 4500B is heavily constrained and likely unavailable.

SPECIALIZATION MODULES – Course Selection Guidelines

Microbiology and Immunology	Pathology & Toxicology
<p>Year 2: 4.0 REQUIRED courses</p> <p>0.5 course: Biochemistry 2280A (minimum mark of 65%) 1.5 courses: Biology 2581B, 2382B, 2290F/G 1.0 courses: Chemistry 2213A/2223B (minimum mark of 65% in each) 0.5 course from: Biology 2244A/B or Statistics 2244A/B 0.5 course: Microbiology & Immunology 2500A/B</p>	<p>Year 2: 2.5 REQUIRED courses</p> <p>0.5 course: Biochemistry 2280A 0.5 courses from: Biology 2382B 0.5 courses from: Biology 2581B or 2290F/G 0.5 course: Chemistry 2213A 0.5 from: Biology 2144A/B or Statistics 2244A/B</p> <p>Points to consider:</p> <ul style="list-style-type: none"> Completion of Chemistry 2211A, 2214B or 2223B is recommended in Year 2 Chemistry 2223B is recommended as it is required in some other modules (Microbiology & Immunology, Biochemistry).
<p>Year 3: 2.0 to 3.0 courses</p> <p>0.5 course: Biochemistry 3381A 1.5 courses: Microbiology & Immunology 3100A, 3300B, 3610F, 3620G (min. mark of 70% in each)</p> <p>Points to consider:</p> <ul style="list-style-type: none"> 1.0 courses from: Anatomy and Cell Biology, Biochemistry, Biology, Epidemiology and Biostatistics, Medical Biophysics, Pathology, Pharmacology, or Physiology courses at the 2000- or 3000-level, could be taken in Year 3 or 4 depending on the student's timetable and workload 	<p>Year 3: 4.0 courses</p> <p>1.0 courses from: Pharmacology 3620 1.0 course: Physiology 3120 1.0 course: Pathology 3240A, 3245B 1.0 courses from: Anatomy & Cell Biology 3309, 3319, Biology 3316A, Chemistry 2272F, Epidemiology 2200A/B, Pathology 4200A/B, Physiology 3140A</p> <p>Points to consider:</p> <ul style="list-style-type: none"> Physiology 3140A is recommended for students contemplating a change to Physiology & Pharmacology (students would also need Physiology 3130Y). Either Chemistry 2272F or Epidemiology 2200A/B could be taken in second year. Some courses are heavily constrained. Students should review Access to Courses and Reserved Spaces in 4000-level Courses on this website under Courses A minimum mark of 75% in each of Pathology 3240A and Pathology 3245B is required to progress in this module
<p>Fourth-year selection: 3.0 courses (for Year 4 students in 2014/15)</p> <p>1.5 courses: Microbiology & Immunology 4100A, 4200B, 4300A 1.0 courses from: Biology or the Basic Medical Science disciplines at the 2000- or 3000-level 0.5 course from: Biology, Chemistry or the Basic Medical Sciences</p> <p>Points to consider:</p> <ul style="list-style-type: none"> Students in Year 4 in 2014/15 will follow the outline as posted in the 2012/13 Academic Calendar. Courses included in the "1.0 courses from" list above could be taken in third or fourth year depending on the student's timetable and workload. The 0.5 biology, chemistry or basic medical science course is a replacement for Microbiology and Immunology 4700B, which is no longer offered. 	<p>Fourth-year selection: 3.0 courses</p> <p>1.0 courses from: Pharmacology at the 4000-level 1.0 course: Pathology 4400A/B and 4500B 1.0 courses from: Anatomy & Cell Biology 3309, 3319, Biology 3316A, Chemistry 2272F, Epidemiology & Biostatistics 2200B, Physiology 3140A</p>

SPECIALIZATION MODULES – Course Selection Guidelines

Pharmacology	Physiology
<p>Year 2: 3.0 REQUIRED courses</p> <p>0.5 course: Biochemistry 2280a 1.5 courses: Biology 2581B, 2382B and 2290F/G 0.5 course: Chemistry 2213A 0.5 course from: Chemistry 2210A/B, 2211A/B, 2214A/B or 2223B 0.5 course from: Biology 2244A/B or Statistics 2244A/B</p> <p>Points to consider:</p> <ul style="list-style-type: none"> Chemistry 2223B is recommended as it is required in some other modules (Microbiology & Immunology, Biochemistry). Pharmacology 2060A/B could be taken in second year to explore a potential interest in this subject area. It will be a heavy course load if students opt to take both Pharmacology 2060A/B and Chemistry 2223B 	<p>Year 2: 3.0 REQUIRED courses</p> <p>0.5 course: Biochemistry 2280A 1.5 courses: Biology 2581B, 2382B and 2290F/G 0.5 course: Chemistry 2213A 0.5 course from: Biology 2144A/B or Statistics 2122A/B</p> <p>Points to consider:</p> <ul style="list-style-type: none"> If Chemistry 2223B is going to be taken as part of the module, it should be taken in second year
<p>Year 3 selection: 4.0 courses</p> <p>1.5 course: Pharmacology 3620 and 3580Y 1.5 course: Physiology 3120, 3140A 1.0 course: Anatomy & Cell Biology 3309, 3319</p> <p>Points to consider:</p> <ul style="list-style-type: none"> Pharmacology 3580Y is a half course that runs all year. Students will end up with one term that is heavier than the other – in one term, students will take 5 courses and Pharmacology 3580Y, and in the other term, they will take 4 courses and Pharmacology 3580Y. A minimum mark of 75% in the previous term is required to register in Pharmacology 3580Y. Students could also consider Physiology 3130Y it would allow a student to move to a Physiology module. Although Pathology 3240A is not mandatory it can be taken as part of the module but space is limited. Anatomy & Cell Biology 3309 or 3319 could be taken in fourth year. Some courses are heavily constrained. Students should review Access to Courses on this website under Courses. 	<p>Year 3 selection: 3.5 courses</p> <p>2.0 courses: Physiology 3120, 3130Y and 3140A 1.5 courses from: Anatomy and Cell Biology 3309, 3319, Biology 2471A, 2601A/B, 3338A, 3592A, 3595A, Chemistry 2223B, Medical Biophysics 3501F, 3505G, 3505F, 3507G</p> <p>Points to consider:</p> <ul style="list-style-type: none"> Physiology 3130Y is a half course that runs all year. Students will end up with one term that is heavier than the other – in one term, students will take 5 courses and Physiology 3130Y, and in the other term, they will take 4 courses and Physiology 3130Y. An average of 75% in the previous year is required for registration in Physiology 3130Y and in this module
<p>Year 4 selection: 2.5 courses</p> <p>1.5 courses from: Pharmacology at the 4000-level 1.0 courses from: Epidemiology 2200B, Pathology 3240A, 4400A/B, Chemistry 2210A/B, 2211A/B, 2214A/B, 2223B (a maximum of 0.5 courses may be chosen from 2000-level Chemistry)</p>	<p>Year 4 selection: 3.0 courses</p> <p>3.0 courses from: Physiology at the 4000-level (excluding Physiology 4980E)</p>

SPECIALIZATION MODULES – Course Selection Guidelines

Physiology & Pharmacology

Year 2 selection: 3.0 REQUIRED courses

0.5 course: Biochemistry 2280A

0.5 course: Chemistry 2213A

1.5 course: Biology 2581B, 2382B, 2290F/G

0.5 course from: Biology 2244A/B or Statistics 2122A/B

Points to consider:

- Chemistry 2223B is not part of this module but students are advised to take this subject as an option in second year.
- Students could take Pharmacology 2060A/B in second year, to see if they like the subject area.
- It will be a heavy course load if students opt to take both Pharmacology 2060A/B and Chemistry 2223B

Third-year selection: 3.5 courses

2.0 courses: Physiology 3120, 3130Y, 3140A

1.5 courses: Pharmacology 3620 and 3580Y

Points to consider:

- Physiology 3130Y and Pharmacology 3580Y are both half courses that run all year. Students will end up taking 4 courses plus both labs each term.
- An average of at least 75% in the previous year is required for registration in Physiology 3130Y and in this module
- Registration in Pharmacology 3580Y requires a minimum average of 75% in the previous year

Fourth year selection: 3.0 courses

1.5 courses from: Physiology at the 4000-level (except Physiology 4980E)

1.5 courses from: Pharmacology at the 4000-level (except Pharmacology 4980E)