### Module and Graduation Planning

#### First Year
5.0 courses numbered 1000-1999, including 1.0 from Category A or B

No principal courses less than 60%

#### Module Courses
9.0 courses (or more depending on module) specified by Department.

60% cumulative average in specialization module.

#### Essay
2.0 E, F, G courses including 1.0 from 2000 level or above (essay courses must be done at Western)

#### Breadth
1.0 Category A (Social Science, Interdisciplinary and Multidisciplinary, Various)

1.0 Category B (Arts & Humanities and Languages)

1.0 Category C (Science)

#### Courses
No more than 7.0 Year 1 courses, 13.0 minimum senior level

#### BSc degree
4 year: 11.0 Science/BMSc courses (14.0 maximum in one subject area)*

#### Averages
60% cumulative average in any additional Module taken

60% cumulative average on 20.0 courses successfully completed

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*Subject Areas: Actuarial Science; Astronomy; Biology; Chemistry; Computer Science; Earth Sciences; Environmental Sciences; Physics; Statistical Sciences - are all separate subject areas. Courses in Applied Mathematics, Calculus and Mathematics belong to the same subject area – the subject area of mathematics.
## Specialization in Astrophysics

### 10.0 Module Courses

### Year 1: 5.0 Courses (3.5 Principal Courses)
- **1.0 course** from: Physics 1301A/B, 1401A/B, 1501A/B or 70% in Physics 1028A/B and Physics 1302A/B, 1402A/B, 1502A/B
- **1.0 course**: One of Calculus 1000A/B, 1500A/B and Calculus 1501A/B (recommended) or Calculus 1301A/B (with a mark of at least 85%); or Applied Math 1413
- **0.5 course**: Mathematics 1600A/B
- **0.5 additional course** from the Faculty of Science. It is highly recommended that students complete one of the following: Chemistry 1301A/B, Computer Science 1025A/B or 1026A/B, or Statistical Science 1024A/B
- **0.5 additional course**
- **1.5 elective courses**

### Year 2: 5.0 Courses
- **1.0 course**: Astronomy 2201A/B, 2801A/B
- **1.5 course**: Physics 2101A/B, 2102A/B, 2110A/B
- **1.0 course** from: Calculus 2502A/B (preferred) or Calculus 2302A/B, Calculus 2503A/B (preferred) or Calculus 2303A/B
- **0.5 course**: Applied Math 2402A
- **1.0 elective courses**

### Year 3: 5.0 Courses
- **0.5 course**: Astronomy 3302A/B or 3303A/B. They will be offered in alternate years
- **0.5 course**: Applied Math 3815A/B
- **2.0 courses**: Physics 2910F/G, 3200A/B, 3300A/B, 3400A/B
- **0.5 course** from: Physics 3900F/G/Z, 3926F/G
- **0.5 course** from: Astronomy 4101A/B (offered every other year) or 4602A/B – other half will be taken in 4th year
- **1.0 elective courses**

### Year 4: 5.0 Courses
- **0.5 course** from: Astronomy 4101A/B (offered every other year) or 4602A/B – not taken in 3rd year
- **0.5 course**: Physics 4351A/B
- **0.5 course**: Astronomy 3303 A/B or 3303A/B. They will be offered in alternate years
- **0.5 course**: Physics 3151A/B
- **3.0 elective courses**

*Students must also complete Physics 2950Y, 3950Y, 4950Y (non-credit seminar courses)*

### Notes:
- You may have taken a former course that isn’t listed, because it isn’t offered anymore, but still meets the requirements of the degree – refer to the online academic calendar for the complete list of substitutions.
- Students should plan this module taking into account prerequisites of senior courses.
- The order of courses listed here is a recommendation only. It is possible to complete this module in a different order than what is listed here

### Common Course Policy:
To be considered if you are completing two modules with common courses. You are allowed to double count 1.0 credits toward both modules. Any remaining common courses are distributed between the two modules as evenly as possible and substituted with alternate courses. Please note, when choice exists in a module, courses are not considered common unless and until all choice is exhausted. For more information, see the Academic Counselling website or speak with an Academic Counsellor.

## Points to Consider:
- See back page for important information.