Course Planning
BS/MS Program

Academic Journey as an Actuarial Student
B.S. Actuarial Science

Pre-Major  Prep for Major  Major (Upper Div)
MATH 2AB or 3AB: Calculus
MATH 4A: Linear Algebra  MATH 4B: Differential Equations
MATH 6AB: Vector (Multivariable) Calculus and Series
MATH 8: Intro to Higher Mathematical Proofs
PSTAT 10: R

(Note that the descriptions are not formal names of courses, but topics)
Preparation for the Major

Computer Science (CMPSC, or CS for short)

**CS 8, 9:** Python

**CS 16:** C++, can take instead of CS 9

but not recommended for AS students

WRIT 107A or 107B

**107A:** Accounting Econ Writing

**107B:** Business & Administrative Writing (Recommended)
First let’s introduce some relevant / recommended courses

Will go over the major sheet later to see requirements

120ABC: Stats and Probability, theoretical foundation of stats knowledge
    120B is prerequisite to many other stats courses, 120C is optional (BS)

160AB: Stochastic Process, further advancement from 120s
    160B optional for BS
Major (Upper Division PSTAT)

126: Regression Analysis, a favorite for actuaries
127: Advanced Stats Models (Logistic and Poisson GLM, etc)
131: Machine Learning 130: SAS (database language)
174: Time Series 175: Survival Analysis
170: Financial Math (Financial derivatives)
Major (Upper Division PSTAT)

Dr. Ian Duncan:

Fall: 171 - Annuity Mathematics (FM)

Also offered by other professors in other quarters

Winter and Spring: 172AB - Long Term Actuarial Methods (LTAM)

Professor Janet Duncan:

Spring - 183: P&C Actuarial Concepts
B.S. Actuarial Science

Major Requirement Sheet 21-22:


More PSTAT courses:

## Suggested Plan of Study - B.S. Actuarial Science 2020-2021

<table>
<thead>
<tr>
<th></th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
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<tbody>
<tr>
<td><strong>Freshman Year</strong></td>
<td>MATH 2A or 3A</td>
<td>MATH 2B or 3B</td>
<td>MATH 4A</td>
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<tr>
<td></td>
<td>ECON 1 (VEE)</td>
<td>ECON 2 (VEE)</td>
<td>CMPSC 9/16</td>
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<td>Writing 2</td>
<td>CMPSC 8</td>
<td>ECON 3A (VEE)</td>
</tr>
<tr>
<td><strong>Sophomore Year</strong></td>
<td>MATH 6A</td>
<td>MATH 4B or 8</td>
<td>MATH 6B</td>
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<td></td>
<td>MATH 4B or 8</td>
<td>PSTAT 120A (P)</td>
<td>PSTAT 120B (P, MAS I, VEE)</td>
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<td>PSTAT 10</td>
<td>ECON 10A</td>
<td>(ready for exam P in summer)</td>
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<tr>
<td><strong>Junior Year</strong></td>
<td>PSTAT 171 (FM)</td>
<td>PSTAT 160A (MAS I, II)</td>
<td>PSTAT 131 (SRM, PA, MAS I, II)</td>
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<tr>
<td></td>
<td>PSTAT 130 (SAS)*</td>
<td>PSTAT 126 (SRM, PA, MAS I)</td>
<td>WRITING 107B</td>
</tr>
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<td></td>
<td></td>
<td>(ready for exam FM)</td>
<td>PSTAT 170 (IFM)</td>
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<td>(ready for exam IFM in summer)</td>
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<tr>
<td><strong>Senior Year</strong></td>
<td>PSTAT 174(SRM, MAS I)</td>
<td>PSTAT 173 (STAM, MAS I, II)*</td>
<td>PSTAT 120C (CSTAM, MAS I)*</td>
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<tr>
<td></td>
<td>ECON134A(VEE)*</td>
<td>PSTAT 172A (LTAM, MAS I)</td>
<td>PSTAT 172B** (LTAM) or 160B</td>
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[https://www.pstat.ucsb.edu/sites/default/files/sitefiles/ACTSCI%20BS%202020-2021.pdf](https://www.pstat.ucsb.edu/sites/default/files/sitefiles/ACTSCI%20BS%202020-2021.pdf)
## Sample Schedules

**Accelerated track** (student has taken AP calculus and many GE's)

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<td><strong>Freshman</strong></td>
<td>MATH 4A</td>
<td>MATH 6A</td>
<td>MATH 4B</td>
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<tr>
<td><strong>Year</strong></td>
<td>ECON 1 (VEE)</td>
<td>ECON 2 (VEE)</td>
<td>PSTAT 120A (P)</td>
</tr>
<tr>
<td></td>
<td>Writing 2</td>
<td>CMPSC 8</td>
<td>CMPSC 16</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td>PSTAT 120B(P, MAS I, VEE)</td>
<td>MATH 6B</td>
<td>PSTAT160B**(MAS I)** or 131</td>
</tr>
<tr>
<td><strong>Year</strong></td>
<td>MATH 8</td>
<td>PSTAT 160A(MAS I, II)</td>
<td>(SRM, PA, MAS I, II)</td>
</tr>
<tr>
<td></td>
<td>PSTAT 171 (FM)</td>
<td>PSTAT 126 (SRM, PA, MAS I)</td>
<td>PSTAT 170(IFM)</td>
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<td></td>
<td>PSTAT 10</td>
<td><em>(ready for exams P and FM)</em></td>
<td>ECON 10A</td>
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<tr>
<td><strong>Junior</strong></td>
<td>PSTAT174 (SRM, MAS I)</td>
<td>PSTAT 172A(LTAM, MAS I)</td>
<td>PSTAT 172B**(LTAM)**</td>
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<tr>
<td><strong>Year</strong></td>
<td>PSTAT130 (SAS)*</td>
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<td>ECON134A(VEE)*</td>
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<tr>
<td><strong>Senior</strong></td>
<td>Grad courses, research</td>
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</tr>
<tr>
<td><strong>Year</strong></td>
<td>Combined MS in ActSci</td>
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Tips for Course Planning

Reasonable course load and combination

Prioritize courses that are useful to your agenda

Career or Academic Excellence

Plan ahead of time, but be ready to improvise
BS/MS Combined Program

Highlight  Course Work  Admission
Program Highlight

5-Year combined program

Many complete in a total of 4-~ Years

An efficient option for Actuaries

GRE NOT required

Actuarial Research Opportunity (PSTAT296)
Requirements

Applicants need to be currently enrolled Actuarial Science major student

3.2 GPA for admission

At least 3 quarters in graduate status

No less than 3.0 GPA during graduate status
Course Work

BS/MS Degree Sheet:

160B, 172B BOTH mandatory

120C mandatory
Course Work

Take the **Graduate Level Version** of 274, 231, 276

Can petition to take the 200s version before grad status

Administered together with the undergrad version

Only difference is some extra work on HW or exam / project
Schedule Planning

172A/B only offered in Winter/Spring consecutively

296A/B only offered in Fall/Winter consecutively and must be taken continuously (same project throughout 6 month)

213A only offered in Fall

276 only offered in Spring
1. Pre-Application & Pre-Admission

   Administered by PSTAT department

   Google form:
   https://docs.google.com/forms/d/e/1FAIpQLScERBiMMxKW1VGGTCsxKXzxWLkD17Fb--ZnRKEliUk-la19Pw/viewform?usp=sf_link

   Need 3 professors as recommender (no need for actual letter yet)

2. Application process with Dept. of Admissions

   Just a paperwork process to advance to grad status

   Will require the actual recommendations then
Usual time frame: deadline Mar. 15th of your Junior year

Otherwise: at least 2 quarters prior to advancing to graduate status

For any questions, including schedule planning:

Dr. Hal Pedersen, hpedersen@pstat.ucsb.edu
Other Advising Resources

Undergrad Advising: undergradadvisor@pstat.ucsb.edu

Graduate Advising: Myranda Flores, studentaffairs@pstat.ucsb.edu

BS/MS Advising: Hal Pedersen, hpedersen@pstat.ucsb.edu

Also feel free to reach out to Ivo Zhang or Abby Liu for peer advising.
Thanks!

Do you have any questions?

Reach out to our officers!
https://actuaryclub.pstat.ucsb.edu/officers/

Next Week: Coffee with Professors
Ft. Dr. Ian Duncan, Prof. Janet Duncan

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