Course Planning BS/MS Program

Academic Journey as an Actuarial Student

B.S. Actuarial Science

Pre-Major   Prep for Major   Major (Upper Div)

Pre-Major

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)**

Major (Upper Division PSTAT)

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
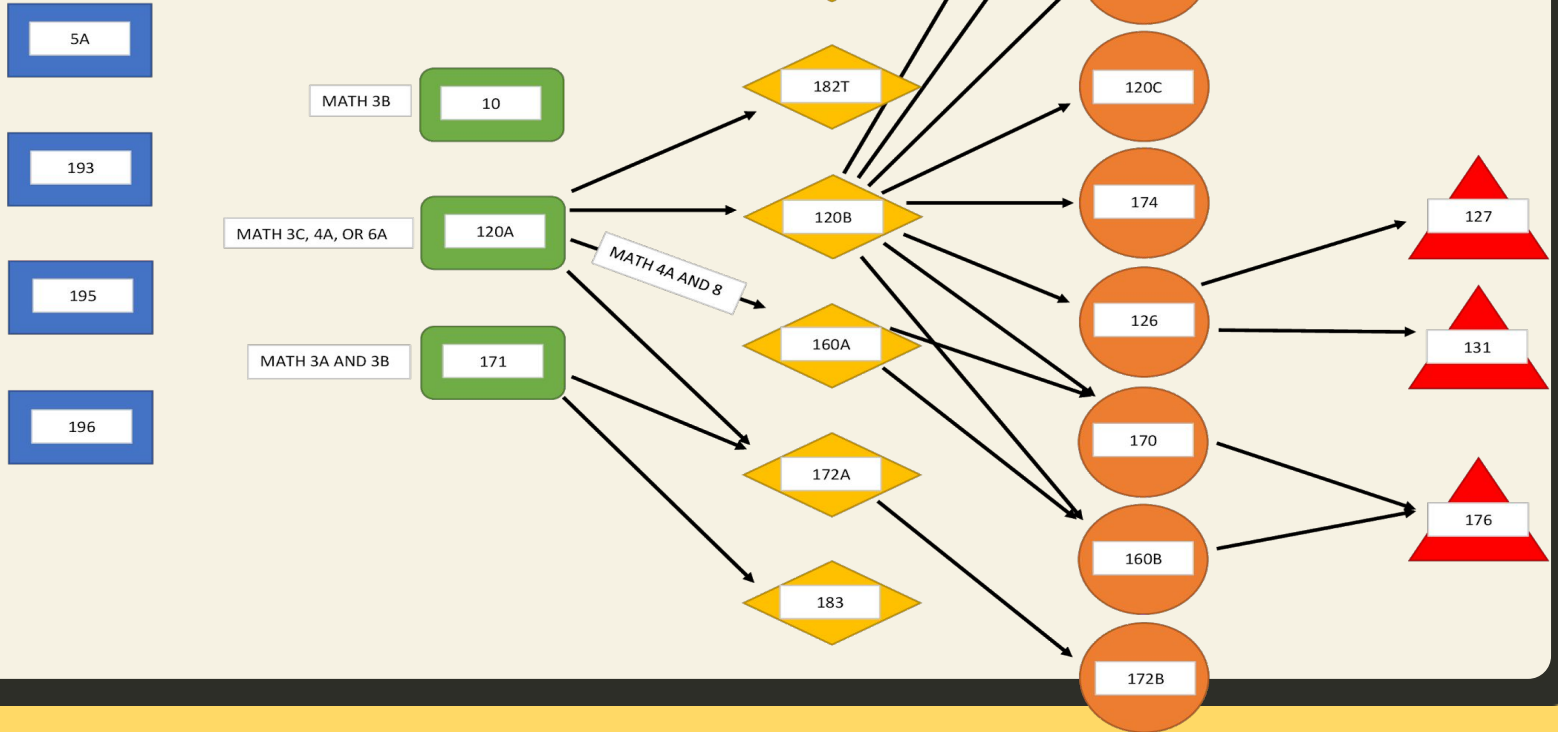
Major Requirement Sheet 21-22:

https://my.sa.ucsb.edu/catalog/Current/Documents/2021_Majors/LS/PStat/Actuarial%20Science-BS-2021.pdf

More PSTAT courses:

https://my.sa.ucsb.edu/catalog/Current/CollegesDepartments/ls-intro/stats.aspx?DeptTab=Courses

Prerequisite Map

5A

193

195

196

1 Upper Division — 130

MATH 3B — 10

MATH 3C, 4A, OR 6A — 120A

MATH 3A AND 3B — 171

MATH 4A AND 8

182T

120B

160A

172A

183

105

173

122

120C

174

126

170

160B

172B

127

131

176

Sample Schedules

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

	Fall	Winter	Spring
Freshman Year	MATH 2A or 3A ECON 1 (VEE) Writing 2	MATH 2B or 3B ECON 2 (VEE) CMPSC 8	MATH 4A CMPSC 9/16 ECON 3A (VEE)
Sophomore Year	MATH 6A MATH 4B or 8 PSTAT 10	MATH 4B or 8 PSTAT 120A (P) ECON 10A	MATH 6B PSTAT 120B (P, MAS I, VEE) *(ready for exam P in summer)*
Junior Year	PSTAT 171 (FM) PSTAT 130 (SAS)*	PSTAT 160A(MAS I, II) PSTAT 126 (SRM, PA, MAS I) *(ready for exam FM)*	PSTAT131 (SRM, PA, MAS I, II) WRITING 107B PSTAT 170 (IFM) *(ready for exam IFM in summer)*
Senior Year	PSTAT 174(SRM, MAS I) ECON134A(VEE)*	PSTAT 173 (STAM, MAS I, II)* PSTAT 172A (LTAM, MAS I)	PSTAT 120C (CSTAM, MAS I)* PSTAT 172B** (LTAM) or 160B

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 GEs)

	Fall	Winter	Spring
Freshman Year	MATH 4A ECON 1 (VEE) Writing 2	MATH 6A ECON 2 (VEE) CMPSC 8	MATH 4B PSTAT 120A (P) CMPSC 16
Sophomore Year	PSTAT 120B(P, MAS I, VEE) MATH 8 PSTAT 171 (FM) PSTAT 10	MATH 6B PSTAT 160A(MAS I, II) PSTAT 126 (SRM, PA, MAS I) *(ready for exams P and FM)*	PSTAT160B**(MAS I) or 131 (SRM, PA. MAS I, II) PSTAT 170(IFM) ECON 10A *(ready for exam IFM in summer)*
Junior Year	PSTAT174 (SRM, MAS I) PSTAT130 (SAS)* ECON134A(VEE)*	PSTAT 172A(LTAM, MAS I) PSTAT 173 (STAM, MAS I, II)* WRITING 107B	PSTAT 172B**(LTAM) PSTAT 120C (STAM, MAS I)* *(ready for exam FM)* ECON 3A(VEE)
Senior Year	Grad courses, research Combined MS in ActSci	Grad courses, research Combined MS in ActSci	Grad courses, research Combined MS in ActSci

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:
https://www.pstat.ucsb.edu/sites/secure.lsit.ucsb.edu.stat.d7/files/sitefiles/Undergrad/Actuary/2016-17%20%20BSMS%20Requirement%20Sheet.doc

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

Admission Process

1. **Pre-Application & Pre-Admission**

   Administered by PSTAT department

   Google form:
   https://docs.google.com/forms/d/e/1FAIpQLScERBjMMzKW1VGGTCsxKXzxWLkD17Fb--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

Pre-Application

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