Fall 2017/Winter 2018

PSTAT 296 A-B: Research Projects in Actuarial Science

Instructor of Record: Ian Duncan, SH 5518, duncan@pstat.ucsb.edu
Additional Instructors: Janet Duncan, SH 5503, jduncan@pstat.ucsb.edu
                         Pierre-Oliver Goffard, SH 5501, goffard@pstat.ucsb.edu
                          Xiyue Liao, SH 5524, liao@pstat.ucsb.edu
                         Andrey Sarantsev, SH 5519, sarantsev@pstat.ucsb.edu
TA: Shannon Nicponski, snicponski@umail.ucsb.edu
Time/Location: Friday noon-2pm, GIRV 2120
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This is a two-quarter sequence offered in Fall/Winter quarters. This year we have nine different projects in collaboration with different sponsors. Students work in on projects in teams of three and enrollment is limited to 18 students. Project descriptions are attached on a separate page.

Benefits of taking PSTAT 296A-B sequence include an opportunity to:
- closely work with practicing actuaries on a real-life actuarial project;
- interact with a project sponsor, including meetings and presentations;
- see how statistics/probability are applied in a business setting;
- closely interact with at least one of our actuarial faculty (class size is very small so you get lots of personal time with the professor);
- practice/learn/improve your presentation and writing skills;
- earn 8 graduate-level credits (also count as honors credits for all undergraduates);
- PSTAT 296A-B is mandatory for all students completing the combined five-year B.S./M.S. in Actuarial Science program; taking the class as an undergraduate is a chance to explore if this degree is for you;
- learn more about insurance business;
- get a chance to work on a real research project (great if you're thinking about graduate school)

Finally, this class would look great on your resume and provide excellent talking points during hiring/internship interviews.

Enrollment in PSTAT 296A-B is restricted to students pursuing M.S. in Actuarial Science degree. Participation in class for undergraduate students is by instructor's consent only.

Expectations

- Time for all joint meetings is Friday, noon-1:50pm at SH 5607F (Sobel seminar Room). Students are required to keep this time free from other activities.
- The first meeting of the class is on Friday, September 23, noon-1:50pm, room GIRV 2120
    - After that, each group is responsible for establishing regular meeting times with project instructors, this time cannot be in the regularly scheduled class time of Friday, noon-1:50pm.
    - Each group is also responsible for establishing a fixed time for their own weekly meetings (or more frequent meetings)
- Groups are responsible for finding a way to work well together. (If problems cannot be resolved by the group, please notify an instructor.)
- Arriving late, leaving early, missing group or joint meetings is unacceptable and will impact your grade.
- Weekly online status report/software is required for all groups. (Details follow below.)

- A joint meeting of all groups will be held in early-November, early-February, and early-March for the purpose of presenting to the Actuarial Committee. All group participants must attend all meetings – even if they are not presenting that week (Details follow below.).
- Written Document (Working) Report, an Update to the sponsor (format flexible: a conference call, or a PPT, or other) and a PPT Presentation to the Actuarial Committee are required in December to receive PSTAT 296A grade. (Details follow below.)
- Poster for the URCA Research Colloquium must be prepared to receive PSTAT 296B grade. (Details follow below.)

Weekly submissions, both PSTAT 296A and PSTAT 296B:
A separate PSTAT 296 mailbox has been set-up for each group. Each group must keep a detailed record of all work, including methods that did not work, similar to a lab notebook in lab sciences.
- At least one weekly status report and code submission required per team. Weekly reports are reviewed by instructors and Actuarial Committee on an irregular basis.
- If a status report is made by one person on behalf of the team, he/she should indicate role of each group's member in the work progress.
- Multiple reports may be submitted per week, also by individual member
- Changing previous reports is not allowed.
- Code must be well annotated.
- Submission should include all preliminary (draft) and final work, including PPTs, reports, and posters.

Joint Meetings of all instructors, groups, and guests will be held at least twice per quarter
Actuarial Committee (Professor Raya Feldman and Professor Mike Ludkovski) attend all joint meetings
- First week of classes in PSTAT 296A outlining the course
- Early-November: PPT presentations of all groups on their progress
- Early-February: PPT presentations of all groups on their progress
- Early-March: final presentations of all groups
- Attendance at all Joint Meetings is required.

Requirements to receive a final grade in 296A
- Written Documentation (Working) Report is required
- Presentation to the Actuarial Committee in early-November is required
- The working report/article and PPT should cover the following:
  - A problem definition
  - Description of raw dataset, data limitations/reliance/concerns
  - Data processing, preparation, etc.
  - Background reading: summary of references and suggested methods
  - Interim assignments written as methodologies studied and applied. Conclusions (what learned, what did not work, etc.)
  - R or SAS routines used
  - To do list of proposed methodologies for PSTAT 296B

Requirements to receive a final grade in 296B
- Two PPT presentations to the Actuarial Committee are required. A status-update presentation will be scheduled for early-February, and a final presentation will be scheduled for early-March.
- Written Sponsor Report /Article and presentation to sponsor
- Poster in URCA format (see http://www.duels.ucsb.edu/research/colloquium)
- Grade is not assigned until both report and poster are submitted to the Actuarial Committee.