

 **STATISTICS 490-3**  
**SELECTED TOPICS IN STATISTICS: THEORY OF PENSIONS**

**Spring 2001**  
**EVENING COURSE**

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**Instructor: L. SATOV**

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**Prerequisite:**

ACMA 310 and STAT 280

**Corequisite:**

ACMA 320 or permission of the Department of Mathematics and Statistics.

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**Textbook:**

*Mercer handbook of Canadian Pension Plans* 11th edition, by Gordon M. Hall, publisher CCH Canadian Ltd.

**References:**

- *Private Pension Policies in Industrialized Countries* by J. Turner and N. Watanabe 1995, publisher W.E. Upjohn Institute for Employment Research
  - *Fundamentals of Private Pensions*, 7th edition, by McGill, Brown, Haley, and Schieber 1996, publisher Pension Research Council, The Wharton School of the University of Pennsylvania
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**Calendar Description:**

Topics in areas of probability and statistics not covered in the regular undergraduate curriculum of the department.

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**Outline:**

**Section I - Overview of Pension Plans (70%)**

Defined Benefit Plans versus Defined Contribution Plans  
Replacement ratio  
Plan Design  
Government versus private pension plans  
Funding Mechanisms  
Other practical issues relating to the pension environment in Canada (e.g. accounting for pension expense, union issues, public pension plans, executive arrangements, investment issues, - time will dictate which topics are covered)

**Section II - Pension Plan Valuation - the Basics (30%)**

Purpose of the valuation  
Membership reconciliation  
Asset reconciliation and asset smoothing techniques  
The balance sheet

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**Grading:**

60% projects and assignments  
40% final exam

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*Students should be aware that they have certain rights to confidentiality concerning the return of course papers and the posting of marks. Please pay careful attention to the options discussed in class at the beginning of the semester.*

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Revised October 2000 by [math www@math.sfu.ca](mailto:math.www@math.sfu.ca).