

**ATLAS Pilot Course: ACT475 - Insurance Products, Market, and Regulation with AXIS
(Fall 2017)**

Instructor:

Professor V. Zhang

Email: vicki@utstat.toronto.edu

Office Hours: Tuesdays, 3:30-5:30pm

Office: SS 6027A

Seminars: Wednesdays, 3-6pm

Seminar location: SS561 (Computing lab)

Teaching Assistants:

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Lab hours for you to practice or complete take-home assignments:

Reserved SS561 for ACT475: Fridays 2-4pm

TA will be holding lab office hour at SS561 on seven of those Fridays between 2pm and 4pm
(exact dates will be confirmed on portal).

AXIS has been installed on all computers at RW109 and SS561. You may also use either of those two labs to do your AXIS homework as long as it is not reserved for other courses.

Check RW109 availability online: <http://lab.chass.utoronto.ca/rw109.php>

Check SS561 availability online: <http://lab.chass.utoronto.ca/ss.php>

Coursebook:

Zhang, V. & Ewener, J. (2014). *Uncalculated Risks: The transformation of insurance, the erosion of regulation, and the economic and social consequences*. Toronto: Canadian Scholar Press

Available for purchase at UofT bookstore and on Amazon.ca.

On course reserve at Robarts Library.

Student Evaluation:

1- Five 1-page (single-spaced) reading comments/reflections (25%) – **Due Wednesdays, noon**

The comments are an opportunity to reflect upon the readings in a way that will provide a stimulus and focus for class discussion. You should not summarize the readings. Instead you should take a position or sketch an argument or indicate what you find interesting or puzzling or problematic about some part of the readings, which can be further discussed during the seminar. Every week I will provide a few prompt questions for you to reflect upon as you read. You should structure your reflective comments around one or two prompt questions. You need not try to work out a detailed argument and indeed will not have the space to do so. You are welcome to research and consult other sources to help form your opinions (if so please quote your source).

There are ten opportunities (i.e. weeks) to write reading comments. You may choose which weeks you will be writing reading comments, as long as you write five comments in total throughout the semester. You must submit your comments on Blackboard by **noon on the Wednesdays before**

the class in which the material is to be discussed. Late papers will not be accepted.

2- Class participation, and In-class pop-up quizzes on readings or on AXIS (25%)

Active and informed participation in class discussions: regardless of whether you have written a comment for the week's readings, you will be expected to display familiarity with assigned readings during discussions and quizzes.

3- Six take-home AXIS assignments (35%)

4- Final paper (15%): 4-6 pages (single spaced), **Due December 13th 6pm**. Submit electronically in word format. **Late submissions will not be accepted.**

Elaborate on a topic of your choice. The topic should be closely related to one of the seminar topics. You can reflect on perspectives of multiple stakeholders and you may emphasize your personal perspective. Any tentative proposal for a future market and regulatory system is welcome. You can include any changes in your attitude and opinions on the subject matter before and after the course, concrete steps you plan to go forward, and further questions you would like to explore in your future studies.

Schedule of Topics:

1) September 13: Welcome and Introduction

- Some questions to discuss:
 - Personal stories related to the insurance industry – what do you know about the industry/product/market/regulation? Any experience to share as a consumer/policyholder, the child of someone working in the industry, an intern working for the industry, etc?
 - If you have no direct contact with the industry, what do you think is the role of the industry in our economy and society?
 - How do you imagine the relationship between the industry and its regulators – “is vs. ought to be”?
- AXIS:
 - Introduction, general structure of AXIS
- Reading comments for Chapter 1

2) September 20: Chapter 1.

- A brief and general history of financial deregulation (1970s-80s)
- AXIS: Whole life policy modeling Part I (Regular Life Module).
- Reading comments for Chapter 2

3) September 27: Chapter 2.

- Implications of new economic environment and financial deregulation on the insurance industry and the industry's responses
- AXIS: Whole life policy modeling Part II (Regular Life Module).
- **AXIS take-home assignment #1**
- Reading comments for Chapter 3

- 4) October 4: Chapter 3.
 - Insurance regulators' reactions to the industry changes in product offering and asset investments
 - AXIS: Understanding AXIS Reports
 - **AXIS take-home assignment #2**
 - Reading comments for Chapter 4&6

- 5) October 11: Chapters 4 & 6.
 - Enterprise risk management (ERM) incentives and disincentives
 - ERM technique 1: Reinsure and "shadow (re)insurance"
 - AXIS: Universal life policy modeling Part I (Universal Life Module).
 - **AXIS take-home assignment #3**
 - Reading comments for Chapter 8

- 6) October 18: Chapters 8.
 - Common use of derivatives by the insurance industry, derivatives regulation
 - AXIS: Universal life policy modeling Part II (Universal Life Module).
 - **AXIS take-home assignment #4**
 - **No comments this week**

- 7) October 25: Chapters 7.
 - ERM technique 2: Derivative hedging
 - AXIS: Introduction to Annuities Module.
 - Reading comments for Chapter 11

- 8) November 1: Chapter 11.
 - Modeling challenges in insurance industry: Market risk modeling of variable products
 - AXIS: Variable Annuity modeling (Annuities Module).
 - **AXIS take-home assignment #5**
 - Reading comments for Chapter 9

November 6 – Last day to drop courses without academic penalties

November 8: Reading week. No class, office hour, or TA lab office hour. You can use SS561 or RW109 to do AXIS homework or practice AXIS as long as they are available on the lab schedule.

- 9) November 15: Chapter 9.
 - ERM technique 3: Insurance Securitization
 - AXIS: Advanced topic 1 – Statutory and GAAP Reserves Methodologies in AXIS
 - Reading comments for Chapter 14 & 15 & 16

- 10) November 22: Chapters 14 & 15 & 16.

- Introduction on insurance regulation now and then
- The current “rules-based” model and “principles-based” model; implication of the regulatory paradigm shift
- AXIS: Advanced topic 2 – Hedging in AXIS Part I
- **AXIS take-home assignment #6**
- Reading comments for Chapter 17 & 18

11) November 29: Chapters 17 & 18.

- Two case studies on challenges insurance regulators face in the process of regulatory paradigm shift: (1) asset reporting standard (“look-through reporting”) (2) liability valuation
- AXIS: Advanced topic 3 – Hedging in AXIS Part II
- Reading comments for Chapter 21 & 22

12) December 6: Chapters 21 & 22.

- Two categories of limitations of technocrat-centric self-regulation
- Tentative proposals of change – sectoral and geographic regulation convergence? Re-establishing the sectoral “Chinese Wall”?
- Private vs. public provision of retirement protection
- Exit discussions
- AXIS: wrap-up

Missed Assignments or Quizzes

- There is no make-up for course assignments and quizzes.