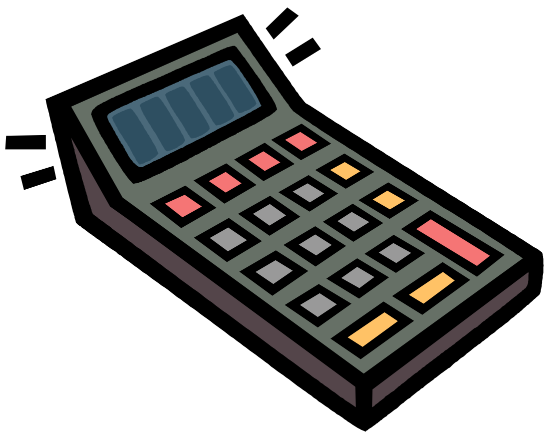
Quantitative and statistical courses for insurance professionals

Seminars and workshops for insurance professionals of all levels of experience that explain in simple intuitive terms common techniques and terminology used in insurance pricing, reserving, reinsurance and capital modelling.

$$\xcancel{f(x) = a_0 + \sum_{n=1}^{\infty}\left(a_n \cos\frac{n\pi x}{L} + b_n \sin\frac{n\pi x}{L}\right)}$$

No complex formulae to understand, just plain common sense concepts that everyone working in insurance can relate to.

The most basic handheld calculator will be all you need in the majority of case studies.



Matβlas

Training insurance professionals since 2007

“Any underwriter who has not attended at least one of MatBlas’ courses...should waste no time in putting that right”

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A Message From The Director

Since I founded MatBlas in 2007 I have had the pleasure to personally train thousands of insurance professionals from all disciples (underwriting, claims, finance, legal, HR, compliance, internal audit and actuarial) and levels of experience (from graduate to chief executive officer).

We have provided training services to over 75% of the Lloyd's Syndicates and for many companies our courses are an integral part of their annual training programme. Delegates have travelled from as far as Lebanon to attend our courses and since 2016 we have expanded internationally delivering courses in the USA and Bermuda.

In the past 10 years we have helped clients put in place training programmes that address two of their main learning and development challenges:

1) The insurance industry's terminology is extremely inconsistent. What should be, for example, a basic standard term such as technical price is actually one that widely varies company to company and even within the same company. Our clients want to standardise internal terminology that is linked to fundamental concepts and methods, our courses help them achieve this.

2) The new generations of insurance professionals are being trained to do the job and follow processes in that specific company: they fill models with data and accept the answers. They are not being equipped with a timeless standard technical foundation that would allow them to become independent thinkers and perhaps even question why things are done like that in that company. When they change jobs they have to learn it all over again with new terms and new processes and so on…

We are the leading training company offering actuarial, technical and statistical training courses to the insurance industry because in our seminars and workshops we teach fundamental principles covering and connecting the five R's of insurance practice: **Rating, Reserving, Reinsurance, Reporting and Risk.** These fundamentals do not become obsolete, they are and will be the cornerstone of insurance modelling.

All our courses start by setting the scene with basic terminology and concepts and build up to teach delegates how the various stages of the underwriting cycle are connected: pricing, reporting, reserving, solvency regulation and capital requirements.

We have dozens of testimonials on our website and some are shown at the back of this brochure.

Regardless of your level of experience and your professional development interests, whether you just want an overview or you want to be able to implement some of the techniques yourself, whether you work in underwriting, claims, finance or legal, I guarantee you there is a course which is just right for you and members of your team.

I look forward to another rewarding year sharing my knowledge and experience; empowering insurance professionals to challenge the status quo, to improve, to streamline and make their processes more efficient by understanding the relationship between all areas of the business.

Sincerely,

Ana J. Mata, PhD, ACAS
Managing Director & Actuary

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In-house bespoke training courses

Preliminary work once course has been agreed: Two hour consultation to discuss the content, objectives, method of delivery, level of experience and skill of delegates and terminology used internally by the client.

Fee includes preparation, customisation, delivery and printed course material for each delegate including soft copies of case studies and templates (power point slides will not be provided as electronic copies).

Number of delegates: minimum 5 and maximum 15

Venue: client will provide venue and training facilities including, if appropriate, computers for delegates to work on case studies.

We have a standard fee structure that depends on the duration and location of the training course. Courses can be delivered in half day modules or full days. We are happy to provide a quote on request.

One-to-one coaching

We also offer clients one-to-one coaching usually for members of the management or executive team that would like to learn in more depth some of the concepts and techniques used by the actuarial or modelling team but they want to do it at their own pace, in a place where their specific questions and concerns are addressed and in confidentiality rather than as a part of a company-wide training.

The fee for these courses are charged at an hourly rate and it would include travelling, preparation and delivery time as well as in between lessons telephone or e-mail consultation with specific examples and questions.

Usually these coaching programmes would be delivered in sessions of 90 minutes. Based on prior experience, to deliver a module of 90 minutes, we would expect to charge about 3 hours in total including preparation and delivery of the course.

We would prepare a bespoke quote once we discuss the requirements with the client.

Small group courses

A small group would consist of up to 4 delegates.

As the demand for in-house courses has grown, we had to adapt our pricing structure to be able to cater for smaller companies or companies with a small delegate base of up 4 delegates.

The fee structure to deliver a standard course for a small group is as follows:

- 36% of the standard fee for one delegate
- 16% of the standard fee for each additional delegate up to three additional delegates (four delegates in total)
- For five (5) or more delegates the standard fee applies.

QUANTITATIVE TECHNIQUES FOR UNDERWRITING MANAGEMENT

(One Day Seminar)

This is perhaps our most popular course among managers and class of business underwriters. Delegates attending this course are generally involved in a management role and are looking to join the dots between pricing, reporting, reserving and capital modelling to streamline their internal processes.

This course focuses on interpretation rather than implementation of standard techniques and concepts in the areas of benchmark models, management reporting including rate changes and rate adequacy, loss reserving, planning and forecasting together with a brief overview of capital modelling and solvency II.

"A course well delivered. Very interactive case studies. Highly recommended for underwriting managers and senior underwriters."

Underwriting Manager

Who should attend?

- Chief executive officers
- Chief underwriting office/ underwriting directors
- Managing directors
- Underwriting managers
- Class or line of business underwriters

Format

This is a one day seminar split in four sessions of 90 minutes each. For each session the trainer presents key concepts and exhibits for 30-40 minutes followed by a case study with interactive Q&A. The case studies only require a hand held calculator.

Throughout the day we encourage delegates to ask questions.

Key topics covered

- The cost of an insurance policy: the claims cost
- Insurance rating:
    - Benchmark vs. technical price
    - Key loss ratios
    - Risk factors and risk classifications
    - Designing efficient consistent rating models – data capture
- Rate changes and rate adequacy
    - What is the rate change of a policy? Of a portfolio?
    - Measuring changes in risk profile
    - Rate adequacy
    - Linking loss cost, loss ratio, rate change and rate adequacy
    - Integrated management reporting
- From pricing to reserving
    - Business plan loss ratio vs. pricing loss ratio
    - Basics of claims reserving
    - Basic methods of reserving – three methods to one answer
- Experience rating
    - Using claims experience to price a policy or a portfolio.
    - Applications to planning and forecasting
- Insurance regulation and capital modelling
    - Key assumptions
    - The 1-in-200 year event
    - What is risk capital?
    - The concept of diversification

FUNDAMENTALS OF INSURANCE RATING

(One Day Workshop)

If you are a modern underwriter or looking to develop your own rating models, perform some ad hoc actuarial analysis, experience rate some of your larger risks and being able to perform some basic reserving analysis, you must not miss this course.

This is a 100% hands on workshops that through computer base real life examples will allow you to implement the learned concepts to realistic data and show you how to draw conclusions and incorporate them in your day to day underwriting process.

From designing benchmark rating plans to complying with reporting requirements and recalibrating rates, we will walk you through the actuarial modelling process: from data to models to answers to decisions.

Who should attend?

Underwriters of all levels

Format

For each session the trainer presents key concepts and exhibits for 30-40 minutes followed by a relevant case study with interactive Q&A.

Delegates must bring their own laptop computer to work on the case studies.

> *"Very useful and relevant course for both new and experienced insurance professionals, particularly underwriters"*
>
> **Chris Webb**
> **Underwriter, Pembroke Underwriting**

Key topics covered

- Understanding probabilities and the expected value concept within the insurance framework
- Understanding the components of premium rates
  - Expected loss cost
  - Expenses
  - Commissions
  - Risk and profit loading
- How is the loss cost calculated
  - Using probabilistic models
  - Using claims experience
- Loss cost, premium and loss ratios
- Benchmarking and technical pricing
- Design and implementation of consistent rating models
- Reporting using the outputs from rating models
  - Rate change or rate monitoring
  - Rate adequacy
  - Expected loss ratio
- Using claims experience to re-calibrate rating models and factors

REINSURANCE PRICING IN PRACTICE

(Two Day Workshop)

Objective

This course has been designed with treaty underwriters and brokers in mind. Whether using models developed by in-house actuaries or developing their own models, delegates will gain a significant understanding of standard actuarial methods used to price reinsurance treaties.

The course is delivered based on the standard reinsurance pricing process workflow, from submission, to data, to models, to premium, to profit.

Who should attend?

Although the course builds up from basic concepts, basic knowledge of reinsurance terms will be an advantage.

- Reinsurance underwriters interested in gaining a deeper understanding of actuarial reinsurance pricing
- Reinsurance underwriters and analyst developing internal rating models
- Reinsurance brokers modelling reinsurance alternatives for their clients

> *"Felt the course content was relevant and well put together. Very useful 2 day course"*
>
> **Casualty Treaty Underwriter**

Format

Prior reading will be required for delegates to familiarise with basic terminology and jargon used in practice. Pre-course material will be provided a few weeks before the course.

For each session the trainer will present key concepts and exhibits for 30-40 minutes followed by application to a relevant case study.

Participants will work on the same data set throughout to replicate a typical submission workflow. Case studies are computer base and basic knowledge of Microsoft Excel is required.

Key topics covered

- Basic statistical concepts and applications in reinsurance
- Introduction to reinsurance
  - What is covered and how does the contract respond
- Pricing quota share treaties
- Pricing methods for XOL treaties
  - Exposure rating
  - Experience rating
  - Frequency/severity or mixed methods
- Selecting the loss cost
  - Basics of credibility
- Evaluating profitability of a contract including reinstatements and other common features.
- From loss cost to combined ratio

BASIC STATISTICS FOR INSURANCE PROFESSIONALS

(One Day Workshop)

Objective

This course has been designed for insurance and reinsurance professionals who want to understand basic statistics and applications to insurance and reinsurance pricing and modelling in general. We also present an introduction to probabilistic models and to families of statistical distributions commonly used in practice.

After the course, participants will be able to:

- Understand the concept of "volatility" within a statistical framework and their impact in various insurance and reinsurance applications.
- Understand how to work with probabilities in any insurance or reinsurance situation.
- Understand the difference between statistical analysis done with data and with models.
- Understand what a loss distribution is.
- Apply the learned concepts to specific practical situations including pricing and capital modelling.

Who should attend?

Any insurance professional working with data and using data to perform basic analyses.

Format

For each session the trainer will present basic concepts for 30-40 minutes, immediately followed by implementation of these concepts to data sets in Microsoft Excel. The course provides step-by-step instructions so all participants can easily follow. In addition, participants will learn how to use Microsoft Excel built-in statistical functions to implement the learned concepts.

> *"A thoroughly enjoyable, insightful course; well presented, well organised and very well run. Highly recommended."*

Key topics covered

- Random variables and probability distributions
  - Tabulated probability distributions
- Common families of probability models used in practice
  - Poisson distribution
  - Normal distribution
  - Exponential distribution
  - Gamma distribution
  - Lognormal distribution
  - Pareto distribution
- Basic statistical concepts
  - Mean, median, mode, variance and standard deviation
  - Histograms, percentiles plots
  - Other graphic representations
  - Concept of volatility and skewness
- Data vs. models
- Practical applications
  - Fitting basic models
  - Using data vs. using models
  - Capital modelling and the 1-in-200 year concept

BASIC ACTUARIAL CONCEPTS FOR NON-ACTUARIES

(Two Day Workshop)

Nowadays actuaries are involved in each area within an insurance or reinsurance company. Actuaries interact with underwriters, claims professionals, finance/accounting professionals, IT developers, legal and compliance and often present to senior management and board members.

Actuaries speak a language of their own often not understood by other insurance professionals.

This course covers all key areas within an insurance company from basic statistics, pricing, reporting, reserving and solvency regulation and capital modelling.

In a very basic format delegates will leave with a deeper understanding of how insurance works and what are the techniques used by actuaries to support all key areas within an insurance company.

Who should attend?

- Graduates starting a career in insurance
- Underwriting assistants and assistant underwriters involved in pricing and modelling
- Finance and accounting professionals working in insurance
- Legal and compliance professionals interacting with actuaries regarding Solvency II and capital modelling
- Claims professionals interacting with actuaries regarding claims reserves
- Anyone working in insurance that directly works with actuaries

Format

Given that for most delegates this is the first exposure to some concepts and terminology, delegates will be given various reading material to work on prior to attending the course. The course will focus on practical aspects of the concepts and some case studies and therefore it is mandatory for delegates to have read the material beforehand.

For each session the trainer presents key concepts and exhibits for 30-40 minutes followed by a relevant case study with interactive Q&A.

Delegates must bring their own laptop computer to work on the case studies.

> *"Very useful and relevant course for both new and experienced insurance professionals, particularly underwriters"*
>
> **Chris Webb**
> **Underwriter, Pembroke Underwriting**

Key topics covered

- Understanding key aspects of insurance
- Basics of insurance pricing
  - Components of premium
  - What is a rate
  - The loss cost component
  - Benchmarking and technical pricing
- Designing rating models taking into account the specific characteristics of each line of business
- Management reporting
  - Rate monitoring on renewal risks
  - Rate monitoring vs. rate adequacy
  - Rate adequacy and new business monitoring
- Basic methods of claims reserving
  - Chain ladder method and Bornhuetter-Ferguson method

    - Selecting an ultimate loss or loss ratio
    - Actual vs. expected results
- Experience rating
    - Premium and exposure adjustments
    - Loss adjustments
    - Estimating the burn cost
    - Modelling policy features (aggregate deductibles, reinstatements, etc)
- Planning and forecasting
    - Loss ratio projection
    - Allowing for claims inflation and rate movements
    - Allowing for new business and business strategy
- Capital modelling
    - Input: data and assumptions
    - Overview of modelling process
    - Output: interpretation of results

What are the main reasons people sign up for this course?

Here are the top three reasons:

1. Lack of internal actuarial pricing support and the need to speed up the development of technical and benchmark pricing models in light of Lloyd's technical pricing reporting requirements.

2. To be able to perform more sound experience rating analysis.

3. To be able to develop sound underwriting management systems and processes that incorporate: rating, reserving, reinsurance and risk analysis.

"Excellent explanation of relevant course material."

Underwriter

WHY Matβlas?

1) We are insurance practitioners and we work day in and day with underwriters and other insurance professionals in projects. Our courses are very practical and our case studies resemble real life examples and situations that delegates can relate to.

2) Our courses build up from timeless fundamental concepts and then incorporate techniques or terminology specific to each class or to their organisation. This allows delegates to discern and challenge how they and their organisations have been doing things and improve their own models and processes.

3) For us training is not marketing. Unlike other consultancy companies when we teach we teach 100% with tools available to anyone in the workplace such as Microsoft Excel; we do not use our training courses to market our software or other products. Delegates leave with comprehensive course material and electronic copies of all case studies for future reference and templates they can build on.

Who we are?

Dr Ana Mata, our Managing Director and founder, is a qualified actuary with broad experience developing bespoke rating and underwriting management solutions for London Market and commercial insurance companies. Throughout her career she has seen both sides of the coin in all areas:

- Pricing experience both in insurance and reinsurance companies as well as an external consultant.
- Global experience: Ana has worked in the US and the London market pricing US and international business.
- Training experience: over 20 years of training experience both in academic and industry roles.

With her candid approach to business, excellent communication and interpersonal skills as well as an extensive experience working with underwriters and actuaries, Ana is able to present the same concepts from different angles to a wide range of insurance professionals including actuaries, underwriters, claims managers and insurance executives.

Our experience

Our trainers are active industry practitioners that allows them to provide the most relevant material and course content for today's insurance market. All courses relate the learned concepts and application to internal and external reporting requirements and current industry trends.

We are the leading training company in the London market providing professional development courses with an actuarial and statistical focus to insurance and reinsurance professionals.

Since 2007, we have trained thousands of insurance professionals across all disciples: underwriting, claims, finance and accounting, IT, human resources, internal audit and compliance and actuaries. Over the years we have provided training courses to over 75% of the Lloyd's Syndicates as well as companies in Europe, The USA and Bermuda.

THOUSANDS OF INSURANCE PROFESSIONALS HAVE ATTENDED OUR COURSES...THIS IS WHAT SOME OF THEM HAVE TO SAY

The course was very useful- as a refresher and also to get more detailed info with regard to the pricing analysis.
Lauren Kent, Endurance
(Reinsurance Pricing in Practice, 2010)

Ana is excellent in presenting this course. The material covered was well balanced and relevant to the topic. Overall a course well worth taking.
Emma Newton, Marketform
(Reinsurance Pricing in Practice, 2014)

Good course well presented. Thoroughly enjoyable and relevant for me at this early stage of my career. I have only been 'underwriting' for 5 months. Thank You.
Mark Quigley, Chaucer (Reinsurance Pricing for Non-Actuaries, 2009)

Very interesting and Ana gave much food for thought.
Grant Le Sage, AXA
(Quantitative Techniques for Underwriting Management, 2009)

Invaluable for the 'modern' underwriting world.
Richard Bryant, Ark Underwriting
(Quantitative Techniques for Underwriting Management, 2008)

Excellent course for those who are almost at management level and for those who want to be able to speak the same language as the actuaries!
Senior Underwriter
(Quantitative Techniques for Underwriting Management, 2014)

Very impressed with course contents relevance to insurance.
Chris Sandys, Markel International
(Basic Statistics for Insurance Professionals, 2010)

Interesting course, well presented, good material and relevant to the day to day jobs undertaken. Also good to brush upon Excel skills.
Arran Wright, Amlin
(Basic Statistics for Insurance Professionals, 2009)

Excellent balance of theory and practical application that helps the non-actuary understands the concepts.
Treaty Underwriter, Lloyd's
(Basic Statistics for Insurance Professionals, 2010)

Very informative course. Very relevant to underwriting management.
Nigel Dorning, Amlin UK
(Actuarial Concepts and Methods for Underwriters, 2010)

Very useful and clearly presented, sympathetic to the needs of underwriters.
Senior Underwriter
(Fundamentals of Insurance Rating, 2010)

Very interactive, Excellent knowledge from presenter and was easy to follow. She answered all our questions and the whole course was very informative and relevant.
Angela Crawley, Brit Insurance
(Fundamentals of Insurance Rating, 2010)

I found the course extremely useful. Very clear and practically focused – certainly helped to demystify many actuarial concepts. Thank you Ana!
Hanna Metsanvirta, Mitsui
(Fundamentals of Actuarial Techniques in General Insurance, 2012)

A tough topic to cover but presented well in a logical and fresh manner.
Senior Underwriter, Lloyd's
(Fundamentals of Insurance Rating, 2012)

A company that is filling a big hole in the training market for actuarial skills for non-actuaries.
Stuart Dale, Treaty Underwriter
(Actuarial Techniques for Underwriting Management, 2008)