

ACTUARIAL EDUCATION IN THE 21ST CENTURY



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Committee



REQUIREMENTS FOR MEMBERSHIP OF IAA

Full Member Associations must demonstrate that:

- > they have a Code of Conduct meeting the IAA minimum
- > they have a proper due process for developing standards of practice before issuing any such standards
- > they have a fair and effective discipline scheme
- > their requirements for qualifying new full members comply with the Core Syllabus and Guidelines



INTERNATIONAL ACTUARIAL ASSOCIATION (IAA)

Core Syllabus and Guidelines

- > IAA has adopted core syllabus and guidelines...
- > ...as a fundamental requirement for Full Member status
- > all associations have to be tested against requirement
- > to become Full Member Associations of the IAA
- > Full Member Associations may require more but not less!
- > revised syllabus approved by IAA Council in April 2007
- > http://www.actuaries.org/ABOUT/Documents/Education_Guidelines_EN.pdf
- > http://www.actuaries.org/ABOUT/Documents/Education_Syllabus_EN.pdf



IAA CORE SYLLABUS

Ten subject areas

- > financial mathematics
- > probability and mathematical statistics
- > economics
- > accounting
- > modelling
- > statistical methods
- > actuarial mathematics
- > investment and asset analysis
- > actuarial risk management
- > professionalism



INTERNATIONAL ACTUARIAL EDUCATION

International convergence based on IAA syllabus

- > strong convergence on Core Technical (subjects 1 to 7)
- > debate on investment and finance content
- > different approaches to Actuarial Risk Management
- > agreement on need to strengthen Professionalism



INTERNATIONAL ACTUARIAL EDUCATION

International examining bodies

- > UK Actuarial Profession
- > Society of Actuaries (North America)
- > Casualty Actuarial Society (non-life)
- > Institute of Actuaries of Australia
- > Institute of Actuaries of Japan
- > Institute of Actuaries of India
- > European Actuarial Academy (just starting)



INTERNATIONAL ACTUARIAL EDUCATION

Actuarial Risk Management

- > Actuarial Control Cycle (IAAust)
- > Core Applications (UK Actuarial Profession)
 - > to be renamed Actuarial Risk Management
- > Associateship Course (SoA)



IAA CORE SYLLABUS

Actuarial risk management

- > the general operating environment
- > assessment of risks: risk types and risk measures
- > design and development of products and services
- > pricing of products and assumptions underlying pricing
- > reserving and valuation of liabilities
- > management of risks and methods of reducing exposure
- > monitoring the experience and exposure to risk
- > management of the relationships between assets and liabilities
- > monitoring the experience and exposure to risk
- > profitability of the enterprise and management of capital
- > principles of regulation of financial institutions

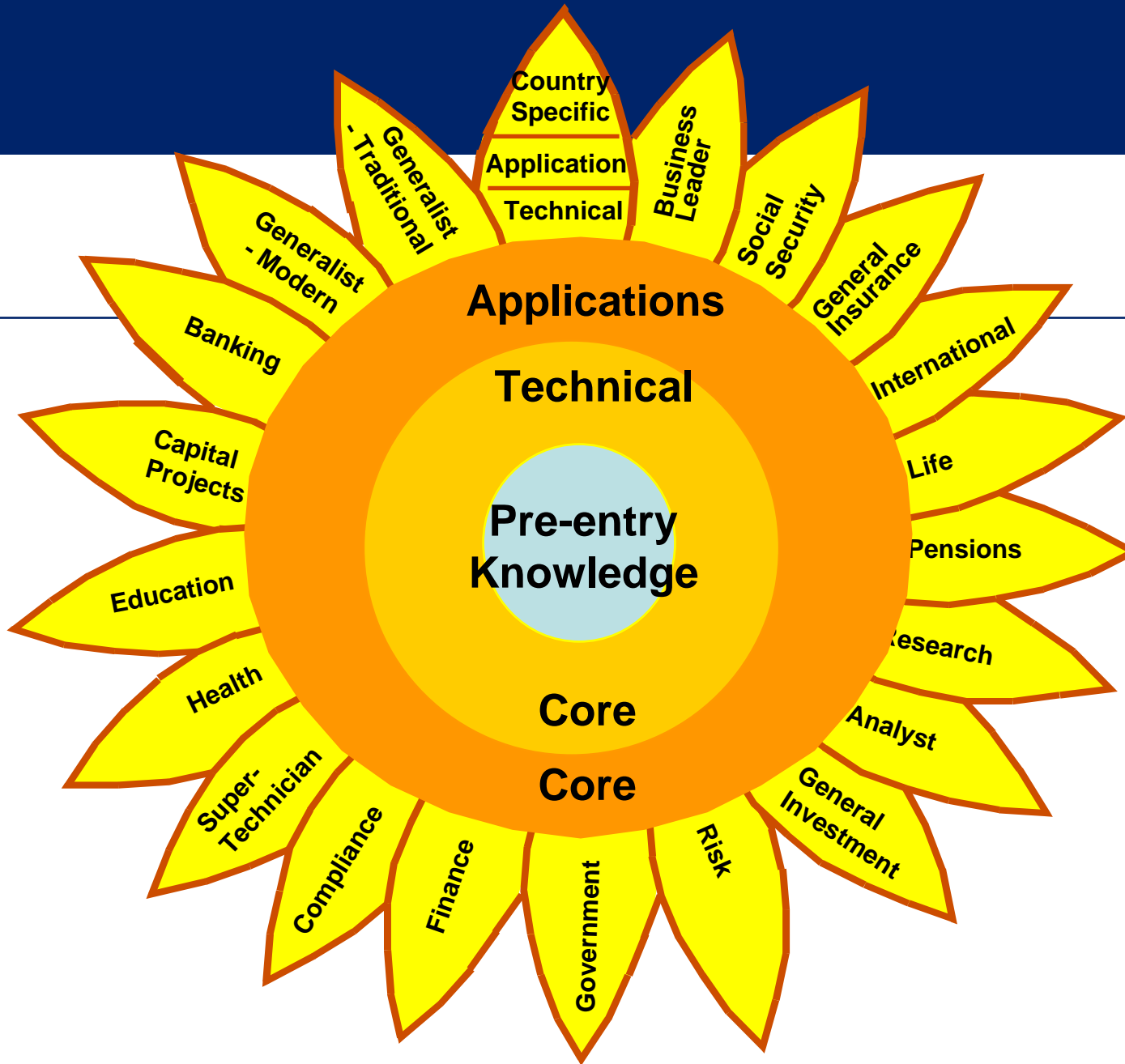


SPECIALIST AREAS

Fellowship specialisation

- > life insurance (group/individual)
- > general insurance
- > pensions and other benefits
- > finance & investment
- > health & care
- > enterprise risk management
- > others under consideration
 - > social security
 - > banking





IAA CORE SYLLABUS

Professionalism

- > characteristics and standards of a profession, including need for:
 - > specialised skill and education
 - > ongoing training and development
 - > high quality of advice
 - > exercise of independent judgement
 - > objectivity, integrity and accountability
- > code of conduct
- > discipline process
- > practice standards set by actuarial bodies or other stakeholders
- > regulatory roles of actuaries
- > the professional role of the actuary



INTERNATIONAL ACTUARIAL EDUCATION PROGRAMME

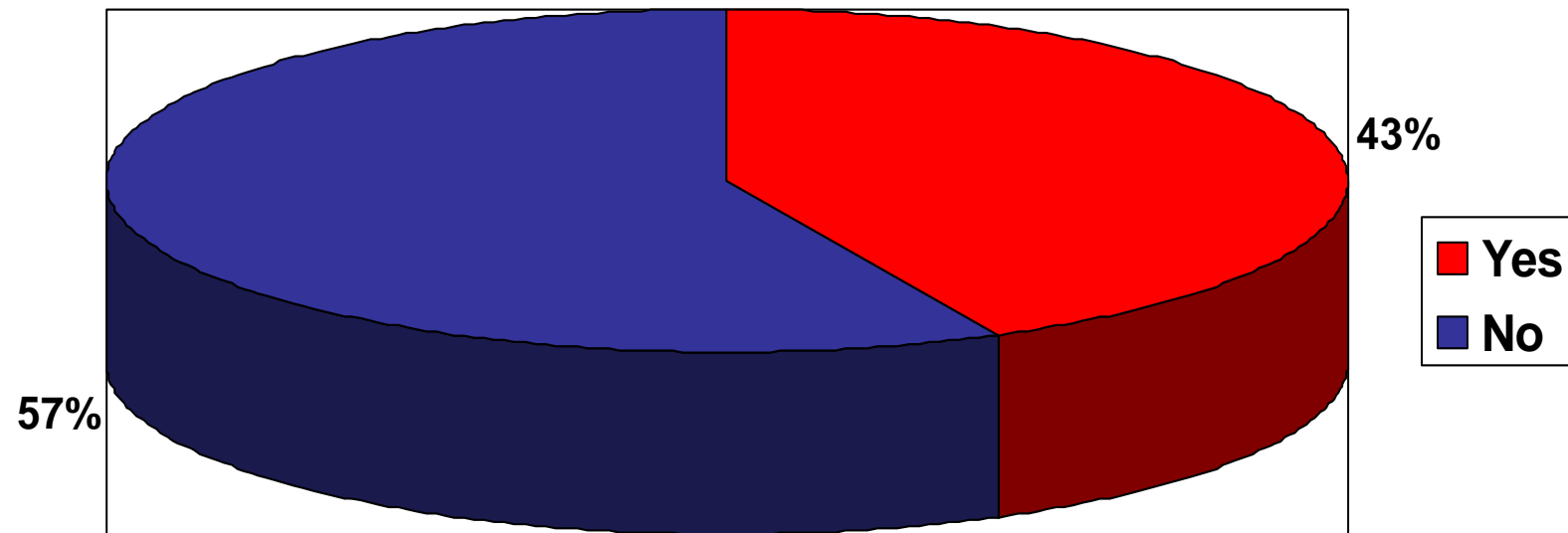
IAA plans to develop actuarial education programme

- > based on IAA education syllabus and guidelines
- > to be available in all countries that require it
- > Associations may use IAEP to demonstrate that they meet the IAA education syllabus and guidelines
- > they may use IAEP in full or in part
- > individuals who have passed all of IAEP can be regarded as meeting minimum requirements
- > IAA will not award membership or qualification
- > this is a key role for IAA Full Member Associations



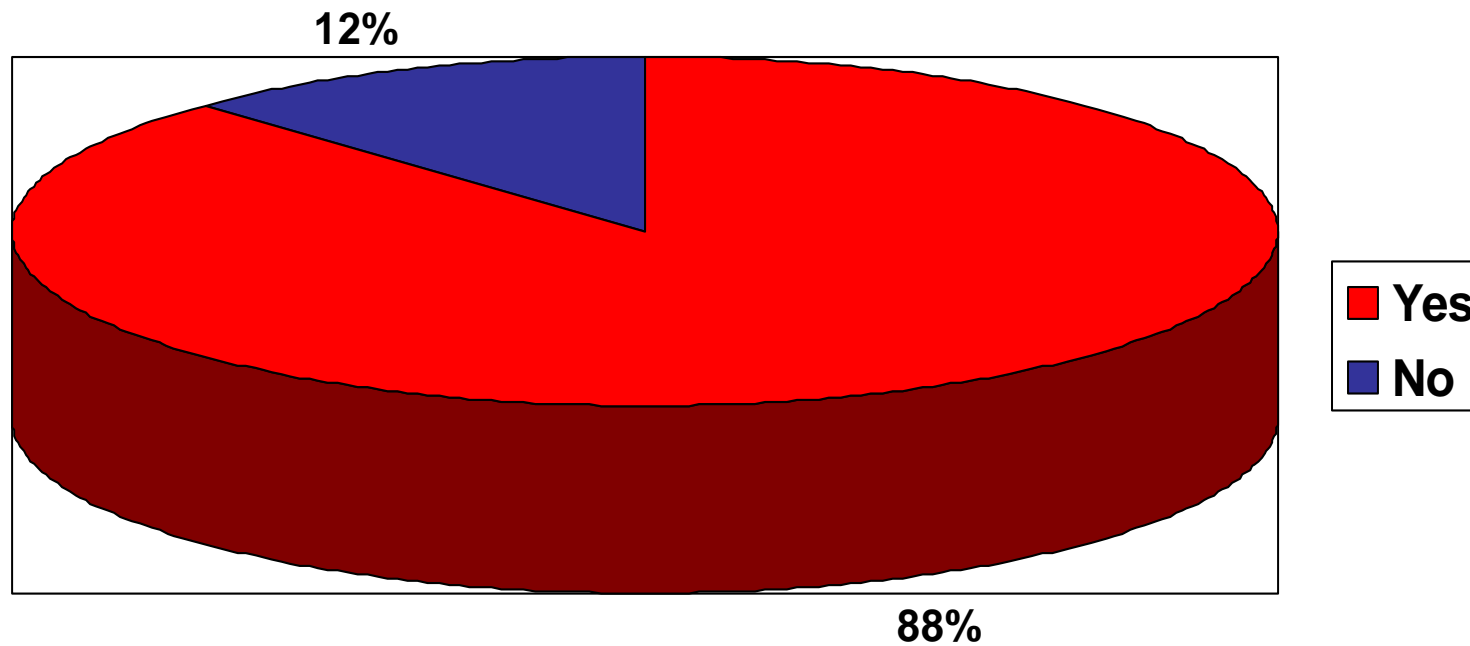
INTERNATIONAL ACTUARIAL EDUCATION PROGRAMME

Does your association organize actuarial education/examinations?
(by number of associations)



INTERNATIONAL ACTUARIAL EDUCATION PROGRAMME

Does your association organize actuarial education/examinations?
(by number of students)



PROFESSIONAL EXAMINATION SYSTEMS

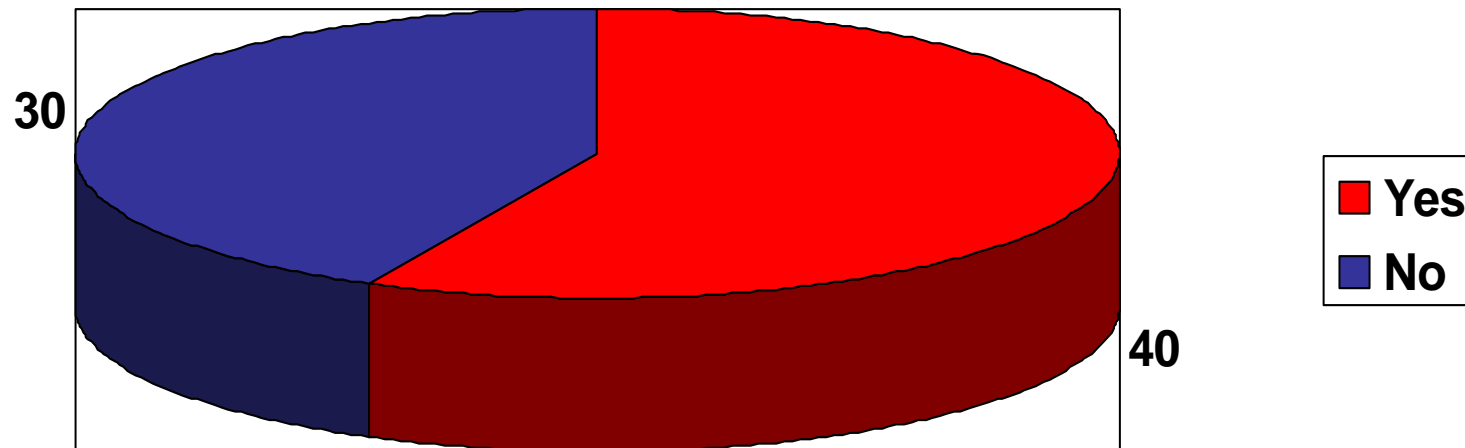
Students currently under professional examination systems

Associations	Number of students a year
Society of Actuaries	10,000
UK Actuarial Profession	8,000
China	4,000
India	4,000
Casualty Actuarial Society	3,000
Japan	2,300
South Korea	2,000
Germany	1,700
Australia	500
Brazil	400
Russia	200
TOTAL	36,100



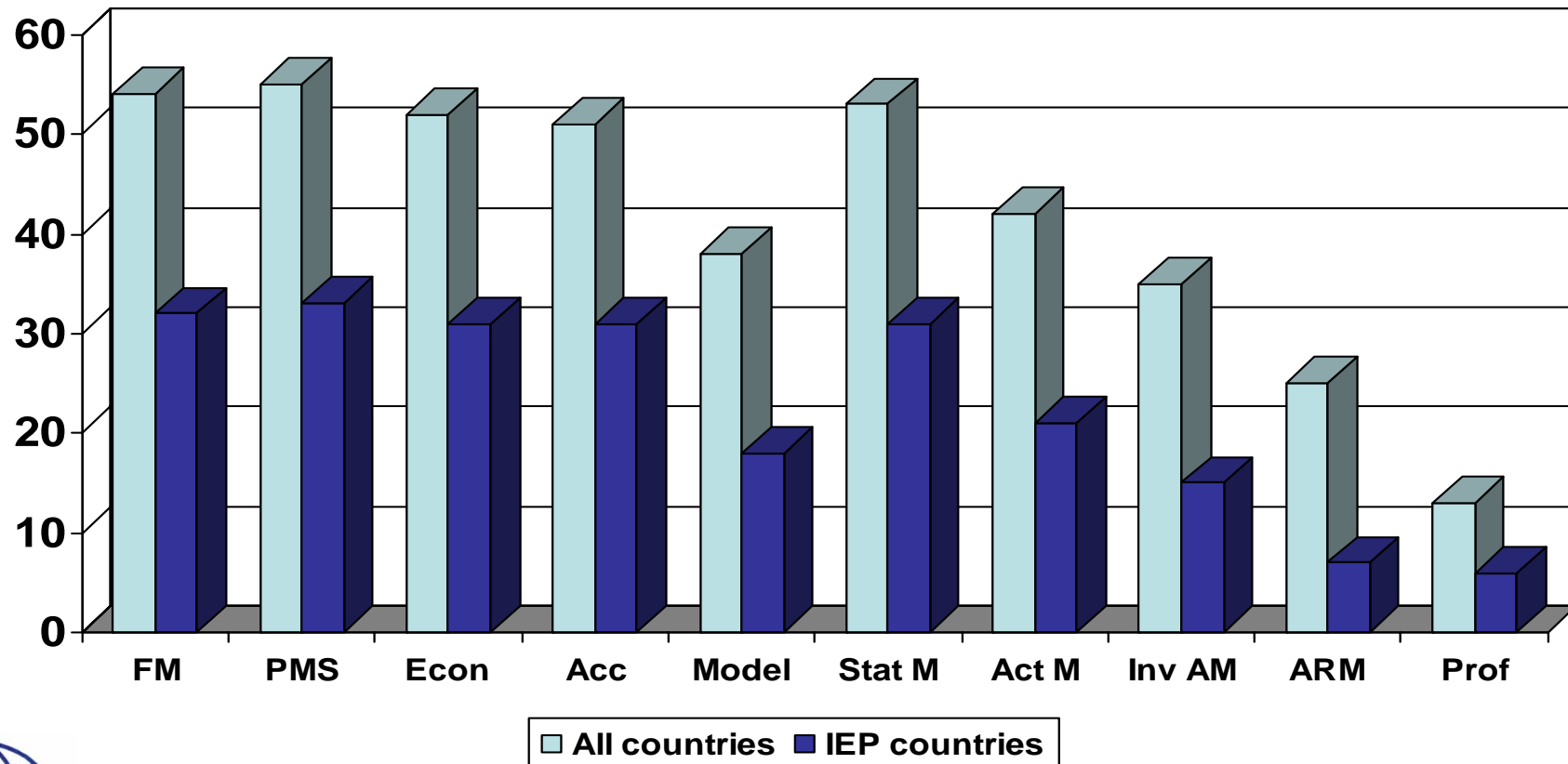
UNIVERSITY INVOLVEMENT

Does your association currently rely, at least in part, on education provided by universities?



UNIVERSITY INVOLVEMENT

Countries with universities interested in teaching IAA core syllabus



ACTUARIAL EDUCATION

Alternative routes for actuarial education

- > exams offered by a professional body
- > university education
- > professional exams allowing for exemptions in respect of courses taken at university
- > university education followed by professional exams
- > university education followed by experience requirement
- > post-graduate specialist programmes



INTERNATIONAL ACTUARIAL EDUCATION PROGRAMME

Role of IAEP

- > Specification of core syllabus and curriculum
- > Preparation and promulgation of tuition materials
- > Accreditation of universities at different levels
- > Set, administer and mark examinations in key subjects eg:
 - > Statistical Methods
 - > Actuarial Mathematics
 - > Investment and Asset Management
 - > Actuarial Risk Management
- > Design generic professionalism training and...
- > ...assist local associations to run professionalism courses



INTERNATIONAL ACTUARIAL EDUCATION PROGRAMME

Specification of core syllabus and curriculum

- > Revised core syllabus and guidelines in April 2007
- > Develop more detailed curriculum for meeting syllabus
- > Identify existing reading materials suitable for curriculum
 - > for most subjects there will be a number of alternatives
 - > selected reading will give an indication of depth as well as breadth



INTERNATIONAL ACTUARIAL EDUCATION PROGRAMME

Preparation and promulgation of tuition material

- > Identify where new tuition materials might be needed
- > Organise preparation of new tuition materials
 - > subcontract preparation to universities and actuarial associations
- > Develop on-line distance learning opportunities



INTERNATIONAL ACTUARIAL EDUCATION PROGRAMME

Accreditation of universities

- > Determine requirements for accreditation
 - > syllabus coverage
 - > teaching staff and methods
 - > examination processes and standards
 - > involvement of actuaries in teaching
 - > relationship with local association
- > Review whether requirements are met and accredit unis
- > Monitor and regularly review accreditation status
- > Develop 'training the training' and visiting lecturers



UNIVERSITY INVOLVEMENT

Possible levels of accreditation

> Level 1

- > Financial Mathematics
- > Probability & Mathematical Statistics
- > Economics
- > Accounting

> Level 2: Above subjects plus

- > Statistical Methods
- > Actuarial Mathematics
- > Modelling

> Level 3: Above subjects plus

- > Investment and Asset Management
- > Actuarial Risk Management

> Accreditation to teach and/or examine



INTERNATIONAL ACTUARIAL EDUCATION PROGRAMME

Role of IAEP

- > Specification of core syllabus and curriculum
- > Preparation and promulgation of tuition materials
- > Accreditation of universities at Levels 1, 2A, 2B, 3A, 3B
- > **Organise examinations in key subjects:**
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INTERNATIONAL ACTUARIAL EDUCATION PROGRAMME

Design and delivery of professionalism training

- > Design generic professionalism course
- > ...with wide selection of case studies
- > ...powerpoint presentations
- > ...notes for presenters and notes for participants
- > ...devise role-plays and/or produce video
- > Make available course leaders to assist associations to run course for the first time and train local course leaders



INTERNATIONAL ACTUARIAL EDUCATION PROGRAMME

Other possibilities

- > **diploma courses** to kick start professional education
- > other **short courses** to supplement local universities
- > development of **CPD modules** in more advanced topics
 - > International Financial Reporting Standards for actuaries
 - > actuarial role in Solvency II and IAIS equivalent
 - > reserving and pricing for general (P/C) insurance
 - > internal models
 - > fair value for insurance companies
 - > actuarial role in social security schemes and pension plans
 - > actuarial role in health care financing
- > **develop generic materials + team of specialist presenters**



ACTUARIAL EDUCATION IN THE 21ST CENTURY



Training the actuaries of the future for a global profession

