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# Overview of actuarial sciences (Profession and Education) in west Africa: Example of BENIN

# Republic of Benin



- Population: 9,325,032 inhabitants
- Area: 112,622 sq km mi (0.02 % of water)
- Official language: French
- Literacy: 47.9% adult males and 23.3% adult females
- Religions:  
christian 42.8%; Muslim 24,4%; Vodoun 17.3% other 15.5%
- Two dry seasons and two rainy seasons. Average temperature max 31°C  
min 24°C
- Economy:  
GDP: USD 6.94 billion (USD 1,500 per capita)  
9 bank institutions , 13 insurance companies



# EDUCATION



# The Actuarial Study Programme at ESA

## Key facts of the bachelor program

- is largely (80%) based on the examination regulations of the German Actuarial Association (DAV).
- spreads over 4 years
- comprises 58 lectures, 40 of which are held by top-ranking international teachers.

1st Year	2nd year	3rd year	4th year
ENGLISH OF INSURANCE	MICROASSUARANCE	FINANCIAL MATHEMATICS	INTRODUCTION TO MODEL
ANALYSIS I & II ALGEBRA	MACROECONOMIE MICROECONOMIE	TIMES SERIES STOCHASTICS CALCULUS	REASSURANCE PENSION NON-LIFE INSURANCE MATHS
IT	STATISTICS TOOLS IN INSURANCE	RISK MANAGEMENT	PORTFOLIO OPTIMISATION
STATISTICS	CIVIL LAW	LIFE INSURANCE MATHEMATICS	INTERNSHIP
ACCOUNTING	PROBABILITIES	IFRS-USGAAP	WRITTING OF BACHELOR THESIS



# Target Group

Our project aims at graduates in mathematics in West Africa, who are interested in an actuarial training. Furthermore, we accept interested students from other subjects, such as statistics and physics.



# European Credit Transfer System (ECTS)

## Conversion table of the programme

scala\_de\_conversion\_des\_notes.xls

ESA Tableau de conversion des notes ECTS (ECTS Conversion table)

	ECTS	IT	NL	BJ-1	BJ-2	BE	UK-1	UK-2	DE-1	DE-2	IRL	USA	60	80	90	120				
Excellent	A	30 e lode	10.0	20	Excellent	20	A	>70	1-1.5	Sehr gut	A (4)	A+	60	80	90	120				
		30/30	9.5	19		19							69	1,6	B+	A-	57	76	85,5	114
				18		18								60			1,7	54	72	108
Pass with distinction	B	29	9.0	17,99	Très bien	17	B+	55-59	2.2-2.5	Gut	B+ (3.5)	B+	53,97	71,96	80,96	107,9				
		28	8.5	16		16							60	1.8-2.1	48	64	72	96		
		27	8.0	15,99	Bien	14							50-54	2.6-2.9	B (3)	B	47,97	63,96	71,96	95,94
			7.5	14		42								56			63	84		
		Pass	C	26	7.0	13,99							Assez bien	13	B-	45-49	3-3.1	Befriedigend	C+ (2.5)	B-
25	43-44			3.2-3.3			36	48	54	72										
24	6.5			12	41-42	3.4-3.5	C+	C	35,97	47,96	53,96	71,94								
23																40	3.6-3.7			
D	22		6.0	11,99	Passable	12	C	39	3.8-3.9	Ausreichend	C (2)	C	30	40	45	60				
	21							38	4											
E	20		5.5	10				37	4.1											
	19							36	4.2											
	18							35	4.3-4.5											
Fail	FX		<18	5.0	<10	Elimine	<8	D-E	<35	<4.5	Nicht best.	F (0)	Fail	<30	<40.00	<45.00	<60.00			

ECTS: European Credit Transfer System



# Professional Accreditation

The program meets the new educational requirements of the syllabus of the *German society of actuaries* Deutsche Aktuarvereinigung (*DAV*)

More than 60 visiting lecturers registered from more than 10 countries.

**Prof. Dr. Oppel**, retired Head of the Department of Actuarial Sciences of the Institute of Mathematics of the University of Munich, Head of our examination committee.

**Prof. PhD Stefan Mittnik**, Dean of the Institute of Applied Statistics, LMU, Munich, Germany,

**Prof. Dr. Dirk van Berlaer**, Université Libre de Bruxelles, Belgique,

**Prof. Dr. Jan Dhaene**, Director of the research group in Actuarial Science from the Catholic University of Louvain in Belgium.

**Philippe de Longueville** Actuary (member of the Institute of Actuaries in Belgium).



# Important Developments since November 2006

- Recruitment of local and visiting lecturers
- Preparation of teaching and learning materials including translation into French
- Local accreditation for the Bachelor and Master programme
- Contacts with local insurance partners for internships
- Search for financial support and donations
- Set up of the charity „Aktuarwissen für Afrika e.V.“, Actuarial Sciences for Africa (ASA) and realisation of its website:  
[www.actuarialsciencesforafrica.org](http://www.actuarialsciencesforafrica.org)
- Organisation of support through the German Actuarial Association (DAV)
- Application for the accreditation of the programme in actuarial sciences and insurance by the IAA
- Internship program in 2009 with Allianz SE, Munich
- Contact and negotiation with 5 other universities in France, Germany, Cameroon, Senegal, Switzerland and Canada
- Contact and negotiation with several actuarial associations
- Attendance of the ICA 2010, Cape Town, South Africa
- First lecture open to practitioners with a participation of 13 practitioners from Nigeria.
- Internship program in 2010 with Pittet Associés S.A., Switzerland
- Internship program in 2011 with Munich RE, Munich (currently).





# Activities

## To ensure an efficient implementation of the project:

- Setting up an expert committee (under chairmanship of Prof. Stefan Mittnik, LMU Munich)
- Setting up an examination committee (under chairmanship of Prof. Ulrich Oppel, LMU Munich)

Setting up an education committee (under chairmanship of Prof. Dr. Dirk van Berlaer, UAC Cotonou)

Prof. Hippolyte Hounnon appointed as project co-ordinator in Benin and contact person between ISM-Adonai and UAC

Internship program with companies in Benin and abroad since 2009

- Being setting-up study program for the supervisory authorities in Benin and from abroad.



Beginning bachelor cycle in Togo starting from 2014.

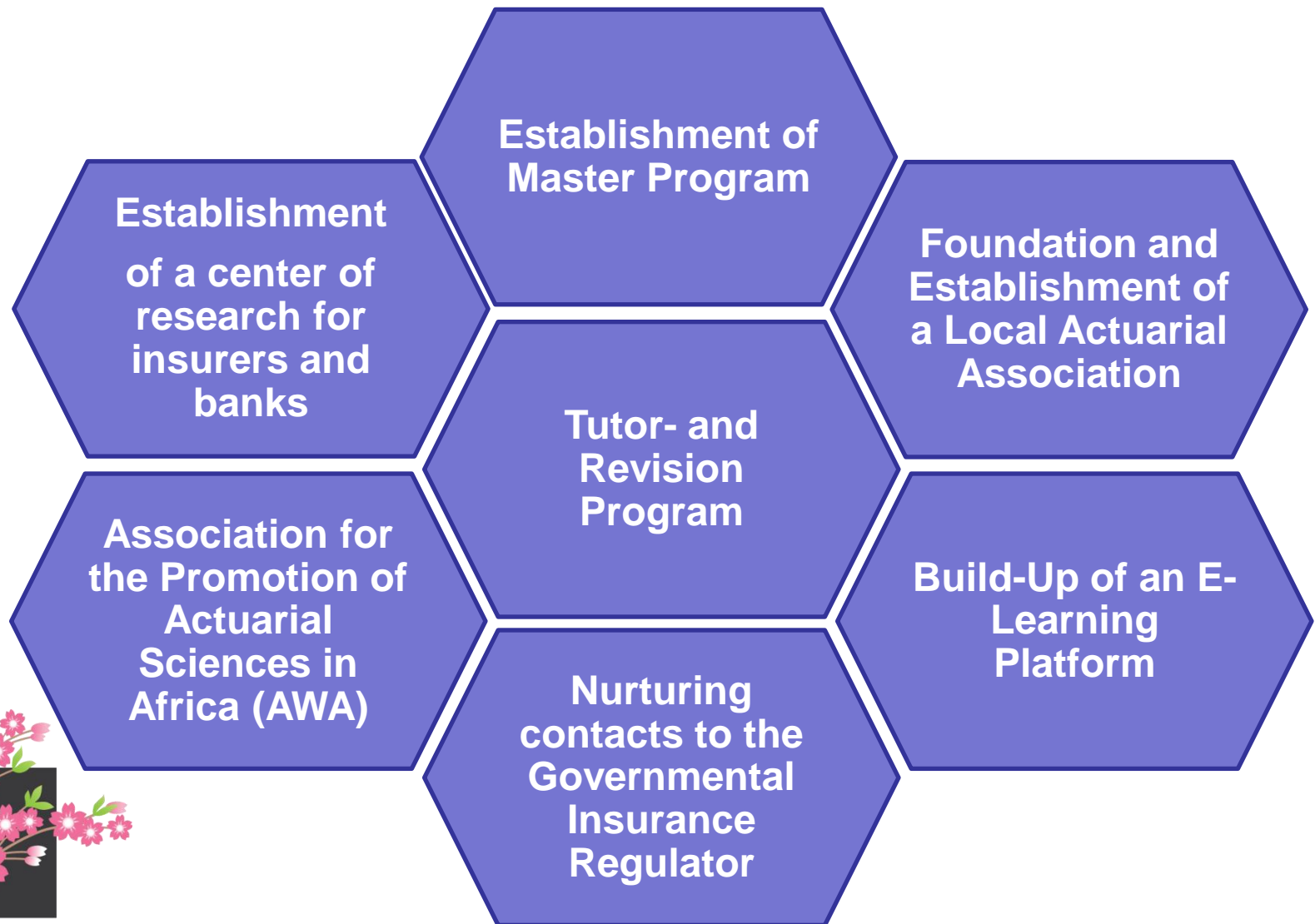
Beginning of master cycle at UAC (Jan 2014)

# Challenges

- Lack of understanding and hence appreciation by industry and regulators of actuarial work.
- There are very few fully qualified actuaries in the market (e.g. Benin only one retired fully qualified actuary and one retired with master in actuary sciences) therefore people who change the price of certain product did it with none actuarial calculations.
- Capacity of market to absorb actuarial science graduates; due to the lack of understanding of actuarial works.
- The language problem



# Beyond the bachelor program of ESA

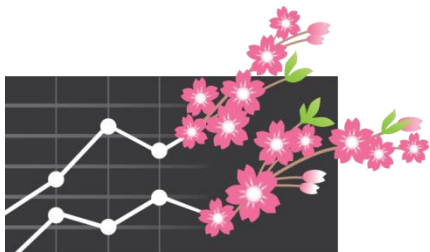


# ORIGIN OF STUDENT FOR MASTER DEGREE 2014

Country	Number
Bénin	13
Côte d'Ivoire	3
Centrafrique	1
Congo	2
Togo	5
Cameroun	5
Madagascar	1
RWANDA	5
<b>TOTAL</b>	<b>35</b>



◆ FOREIGN STUDENT



# Testimonial about our students

## Could you please evaluate the trainee's performance?

Unless otherwise indicated, please rate on 1 – 5 the following (1 = excellent; 5 = poor); please give a comment if necessary.

Evaluation

☺		☹		☹
1	2	3	4	5
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Language level:



### EVALUATION OF THE TRAINEE'S PERFORMANCE BACHELOR INTERNSHIP

Output

- Quality
- Quantity

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Pittet Risk Management

Certificat de travail

Page 2

D'un naturel agréable et discret, Monsieur T s'est acquitté des multiples tâches confiées à notre plus grande satisfaction. Il a toujours fait preuve de disponibilité et a su entretenir d'excellents rapports de travail tant avec ses supérieurs qu'avec ses collègues.

Nous recommandons vivement Monsieur T aux personnes à qui il aurait l'occasion d'offrir ses services et lui formulons nos meilleurs vœux de réussite pour son avenir professionnel.

DAVID PITTET  
Administrateur

OLIVIER BAUDET  
Directeur

Mr. A has acquired an extremely sound specialist knowledge during his studies, which he always applied very profitably in fulfilling his work. He performed his tasks at all times independently with great care and accuracy. Mr. A consistently displayed personal initiative, great diligence and assiduity.

His sharp perceptive grasp enabled him to familiarize himself quickly and successfully with new tasks and he thereby always compassed good results. Mr. A achieved results of very good quality and quantity and always to schedule.

We were always completely satisfied with Mr. A's performance.

Mr. A was a very good, dependable intern who was appreciated by both his superiors and his colleagues for his friendly, obliging and supportive manner, and was also always involved in informal department activities.

We would like to thank Mr. A for his dedicated work, and wish him all the best and much continued success in his studies and his professional and private future.

18 December 2009

Allianz SE  
Königinstraße 28  
80802 München

# PROFESSION



# INSURANCE MARKET DATA

(USD)	2008	2009	2010	2011	2012
<b>LIFE</b>	15 726 369	16 633 898	19 388 077	20 889 683	20 625 662
<b>NON LIFE</b>	43 199 201	44 253 244	46 528 022	50 634 598	50 250 573

- 7 non-life companies
- 6 life companies
- 3 pensions funds



# MAIN ROLE OF ACTUARIES

Actuaries work especially in life companies and pension fund and they main tasks are :

- Product development
- Pricing
- Calculation of reserves
- Profitability test
- Portfolio analysis
- Consulting





# DIFFICULTIES

- Pricing
- Product development
- Lack of statistical data
- Lack of exchange area
- Exigence of certain head manager



# Reactions / Questions / Comments?



***Thank you for your attention***



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