

BACHELOR OF ACTUARIAL SCIENCE ACADEMIC SESSION 2021/2022 (145 CREDITS)			
1. UNIVERSITY COURSES (12 CREDITS)			
COURSE CODE	COURSE NAME	PRE-REQUISITE	CREDITS
GLT ^{xxxx}	English Courses (subject to MUET bands)	-	4
GKA/GKI/GKK/ GKP/GKS/GKU	Co-curriculum	-	2
GIG1012 / GLT1017	Philosophy and Current Issues / Basic Malay Language (only for international students)	-	2
GIG1013	Appreciation of Ethics and Civilisations	-	2
GIG1003	Basic Entrepreneurship Culture	-	2
2. CORE COURSES (87 CREDITS)			
COURSE CODE	COURSE NAME	PRE-REQUISITE	CREDITS
LEVEL 1 (24 Credits)			
SIX1015	Science, Technology and Society	-	2
SIX1016	Statistics	-	3
SIM1001	Basic Mathematics	-	4
SIM1002	Calculus I	-	4
SIM1003	Calculus II	SIM1002	4
SIQ1001	Introduction to Accounting	-	3
SIT1001	Probability and Statistics I	SIM1002	4
LEVEL 2 (31 Credits)			
SIM2001	Advanced Calculus	SIM1003	4
SIM2002	Linear Algebra	SIM1001	4
SIM2007	Appreciation of Mathematics	SIM1003	2
SIM2011	Structured Programming	SIM1002	4
SIQ2001	Microeconomics	-	3
SIQ2002	Macroeconomics	-	3
SIQ2003	Financial Mathematics and Derivatives	SIM1002	4
SIT2001	Probability and Statistics II	SIT1001	4
SIT2007	Foundations of Data Science	SIT1001	3
LEVEL 3 (32 Credits)			
SIQ3001	Actuarial Mathematics I	SIQ2003	4
SIQ3002	Portfolio Theory and Asset Models	SIQ2003	4
SIQ3003	Actuarial Mathematics II	SIQ3001	4
SIQ3004	Mathematics of Financial Derivatives	SIQ2003	4
SIQ3005	Life Insurance and Takaful	-	4
SIQ3006	Risk Theory	SIT2001	4
SIQ3007	Industrial Training	SIQ3001	8
3. ELECTIVE COURSES (46 CREDITS)			
(I) STUDENT HOLISTIC EMPOWERMENT (8 CREDITS)			
‡ ONE COMPULSORY course is taken from each cluster.			
CLUSTER	COURSE NAME	PRE-REQUISITE	CREDITS
CLUSTER 1	Thinking Matters: Mind and Intellect		2
CLUSTER 2	Emotional, Physical and Spiritual Intelligence: Heart, Body and Soul		2
CLUSTER 3	Technology/Artificial Intelligence and Data Analytics: I-techie		2
CLUSTER 4	Global Issues and Community Sustainability: Making the World a Better Place		2
(II) PROGRAM ELECTIVE COURSES (at least 38 CREDITS)			
COURSE CODE	COURSE NAME	PRE-REQUISITE	CREDITS
SIM1004	Fundamentals of Computing	-	3
SIM1005	Fundamentals of Spreadsheets	-	2
SIM1006	Ordinary Differential Equations	SIM1002	4
SIM2010	Numerical Computation	SIM1003	4
SIM2012	Basic Operations Research	SIM1001	4
SIM3021	Mathematical Science Project	SIM2011	4
SIQ3008	Foundation of Islamic Finance	-	4
SIQ3009	Pension Mathematics	SIQ3001	4
SIQ3010	Survival Models	SIT2001	4
SIQ3011	Business Finance	-	3
SIQ3012	Financial and Business Management	-	3
SIQ3013	Stochastic Models	SIT2001	4
SIT2008	Further Mathematical Statistics	SIT2001	4

SIT2009	Regression Analysis	SIT1001	4
SIT2010	Stochastic Processes	SIT2001	3
SIT3003	Computer Intensive Methods in Statistics	SIT2001	4
SIT3004	Applied Stochastic Processes	SIT2010	4
SIT3005	Time Series and Forecasting Methods	SIT2001	4
SIT3015	Introduction to Multivariate Analysis	SIT2001	3
SIT3016	Generalized Linear Models	SIT2001 and SIT2009	4
SIT3017	Statistical Learning and Data Mining	SIT2007	3
SIT3018	Non-Parametric Statistics	SIT1001	4
SIT3019	Introduction to Bayesian Statistics	SIT2001	4
SIT3020	Python for Data Science	SIT3017	4
SIT3022	Probability Theory	SIM2001 and SIT2008	4

Students who wish to take SIQ3007 are advised to have passed at least 110 credits of the listed courses in the program.

PROGRAM GOAL

To produce graduates with sound knowledge in the actuarial field through exploration in the theoretical and application of mathematics, statistics, economics and finance, able to think critically in problem solving as well as capable to increase competitiveness in the national and international levels.

PROGRAM EDUCATIONAL OBJECTIVES

1. Graduates build professions related to actuarial science or related fields.
2. Graduates engage in lifelong learning and interdisciplinary learning in industry or academic institutions based on actuarial science in industry.
3. Graduates contribute to sustainable development and well-being of the community.

PROGRAM LEARNING OUTCOMES

At the end of the program, graduates with Bachelor of Actuarial Science are able to:

1. Explain the principles and concepts of actuarial science, finance, economics, statistics and mathematics;
2. Demonstrate the ability to apply actuarial, financial, economical, statistical and mathematical knowledge critically and analytically in actuarial or related fields;
3. Apply the principles of actuarial science, finance, economics, statistics and mathematics in solving real-world problems;
4. Communicate actuarial, financial, economical, statistical and mathematical concepts effectively, confidently, accurately and coherently in written and oral forms;
5. Use a broad range of information, media and technology application in solving problems;
6. Work in teams, and demonstrate leadership quality and sense of responsibility in achieving goals and outcomes;
7. Engage in lifelong learning to advance knowledge and applications of actuarial science, finance, economics, statistics and mathematics;
8. Act professionally and ethically in the course of analysis and decision-making to solve problems.