BA ISAGO UNIVERSITY IN COLLABORATION WITH NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF COMMERC

DEPARTMENT OF RISK MANAGEMENT, INSURANCE AND ACTUARIAL SCIENCE

BACHELOR OF COMMERCE (HONS) DEGREE IN ACTUARIAL SCIENCE

INDUSTRIAL ATTACHMENT CIN3001

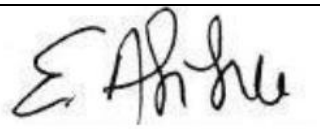
INDUSTRIAL ATTACHMENT LOGBOOK

Student Name:	Lubasi Sebopeng Nkalolang
Student ID:	01212337312
Host Organization:	Empirica Analysis
Department:	Actuarial Department
Company Supervisor:	Edwin Afitile
University Supervisor:	Suleman Patel
Course Title:	Industrial Attachment
Course Code:	CIN3001
Duration:	20/03/2024 – 30/11/2024

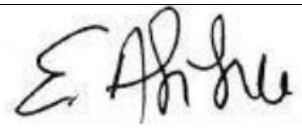
Month	Activities/ Duties Performed	Amount of time spent on each activity/ duty (percentage)	Level of performance - self evaluation (good, fair, or need for improvement)	How I will improve my level of performance	Personal lessons learned	Supervisor sign-off (i.e., signature of host company signature
MARCH	**Introduction to R and Python**	20%	Good	Research best practices and advanced features of R and Python	Learned foundational programming concepts and basic syntax for both languages. Realized the power of these languages in data analysis.	
	Research into the Botswana and Zambia insurance industry	20%	Good	Study market reports and case studies to deepen industry understanding	Gained insights into the regulatory and competitive environment in Botswana and Zambia's insurance markets.	
	Introduction to IFRS17	30%	Fair	Review IFRS17 literature and attend training sessions if available	Understood the basic framework of IFRS17 and its significan	

					ce in insurance reporting.	
	Basic Programming Analysis of Expected and Actual Insurance Variables	30%	Fair	Seek guidance on how to link actuarial variables to coding practices	Discovered how expected and actual values are used in financial projections.	
APRIL	Research into R and Python programming languages in real-world applications	15%	Good	Explore more case studies and practical projects in these languages	Gained awareness of real-world applications of R and Python in data science and actuarial tasks.	
	Introduction to IFRS17 Software Tool	20%	Fair	Familiarize with the tool's functions and attend demonstrations if available	Initial exposure to a specialized IFRS17 tool and its reporting capabilities.	
	Codebase Restructuring of IFRS17 Software Tool	20%	Fair	Focus on modularizing and organizing code for efficiency	Learned how organized code improves maintainability and	

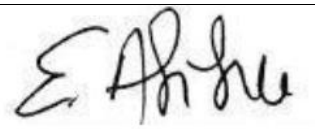
					readability in large-scale projects.	
	Refactoring, Optimization, and Updating of IFRS17 Software Tool	15%	Need Improvement	Study optimization techniques to enhance performance	Began understanding the need for performance optimization in high-computation actuarial scripts.	
	Analysis of Insurance and Reinsurance Portfolio Cashflows	15%	Good	Engage with portfolio data for a deeper understanding of cash flow behavior	Learned the importance of monitoring cash flow from both insurance and reinsurance for financial health.	
	Exposure to Actuarial Modelling Results	15%	Fair	Analyze sample models and interpret the results	Began appreciating the complexity and precision of actuarial modeling in insurance operations.	

MAY	Automation of Actuarial Models	15%	Good	Enhance automation skills with practical exercises	Understood how automating models can save time and reduce error in actuarial calculations.	
	Claims Calculations	10%	Good	Work on different claim scenarios to strengthen understanding	Gained knowledge in calculating and projecting claims liabilities, essential in the insurance industry.	
	Forward Rate Projections	10%	Fair	Seek further training on forward rates and macroeconomic factors affecting them	Developed an understanding of the impact of forward rates on future cash flow estimates.	
	Variance Analysis	10%	Fair	Practice variance calculations to improve accuracy	Realized the importance of variance analysis in comparing actual vs. expected results.	

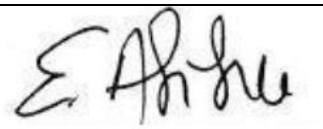
	Analysis of Surplus	10%	Good	Delve into surplus analysis methodology	Gained insight into how surpluses impact company reserves and solvency.	
	Budget Analysis of Cashflows	10%	Good	Examine more budget reports for pattern identification	Learned to analyze budgeted vs. actual cash flows to enhance financial forecasting.	
	Introduction to General Measurement Approach (GMM) of Premium Calculations	15%	Fair	Study more on GMM principles and formulas	Acquired an understanding of premium calculations and their variables within GMM.	
	Analysis of GMM Cashflow Variables	10%	Fair	Familiarize with GMM cash flow components and their significance	Enhanced understanding of the cash flow dynamics under the General Measurement Model.	

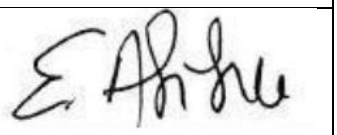
	Introduction to Cloud Computing	10%	Good	Enroll in basic cloud computing training courses	Learned the role of cloud infrastructure in improving scalability and accessibility of data.	
	Codebase Restructuring of IFRS17 Tool for Cloud Computing	10%	Fair	Study cloud architecture design principles	Realized the importance of structuring code to enable seamless deployment on cloud platforms.	
JUNE	CM1 Exam Preparation	10%	Fair	Dedicate more time to exam practice papers	Developed problem-solving skills crucial for actuarial calculations.	
	GitHub Integration for Collaborative Programming	10%	Good	Practice using Git commands regularly	Understood the significance of version control in collaborative environments.	

	Development of Policy Administration System	10%	Fair	Review best practices in system design and documentation	Gained experience in designing systems for policy management in insurance.	
	Development of a GMM Premium Calculation Tool	15%	Fair	Review technical aspects of premium calculations	Learned the technicalities involved in automating premium calculations.	
	Development of Excel Add-in Interface for GMM Tool	10%	Fair	Explore advanced VBA for Excel interface design	Understood the use of Excel Add-ins in enhancing user experience.	
	Analysis of Yield Curve Results from GMM Tool	10%	Fair	Study factors influencing yield curves	Learned about yield curve behavior in assessing liability and cash flow.	
	Integration of Pricing Model Feature in Policy	10%	Fair	Explore actuarial pricing methods	Started learning the significance of pricing models in	

	Admin System				determining policy rates.	
	Development of Office Admin Assumption Manager Tool	10%	Fair	Study assumption management best practices	Understood the importance of managing assumptions in actuarial models.	
JULY	Research on xlwings Development	10%	Fair	Explore xlwings documentation and case studies	Discovered the utility of xlwings for advanced Excel integrations with Python.	
	Add-in Integrations	10%	Good	Learn advanced add-in integration techniques	Enhanced technical skills in integrating multiple add-ins for seamless user experience.	
	Integration of Own Risk and Solvency Assessment (ORSA) into GMM Tool	10%	Good	Research ORSA framework	Learned the importance of ORSA in assessing organizational risk and solvency	

					requirements.	
	Creation of CSM Release and NB Recognition Reports	10%	Fair	Seek guidance on CSM release report structuring	Gained experience in creating detailed compliance reports.	
	Improvement of GMM User Interface	10%	Fair	Study UI/UX principles for better user experience	Recognized the importance of an intuitive user interface for client interactions.	
	Creation of Functionality to Specify Fulfilment Cashflow Variables	10%	Fair	Focus on variable customization methods	Developed skills in customizing models to meet specific client requirements.	
	Programming Subledger and Trial Balance Automation	10%	Good	Enhance knowledge of accounting and trial balance coding	Learned about automated subledger and trial balance calculations for financial accuracy.	

AUGUST	Introduction to PAA Tool	10%	Fair	Study introductory material on the Premium Allocation Approach (PAA)	Understood the basic structure and function of PAA in insurance accounting.	
	Coding of PAA Tool	20%	Good	Review and optimize code as needed	Developed coding skills specific to premium allocation and handling cash flow.	
	VBA Script Programming for GMM and PAA Excel Frontend	15%	Fair	Focus on enhancing VBA skills	Gained experience in automating Excel tasks and creating interactive frontends for actuarial tools.	
	Further Development of Office Excel Add-in	10%	Good	Improve add-in functionality	Enhanced Excel integration with additional functionalities, optimizing workflow for users.	

	Frontend Development of GMM and PAA Tool	10%	Fair	Study frontend design practices	Developed knowledge on frontend user interfaces and their role in user experience for actuarial applications.	
SEPTEMBER	Development of GMM and PAA Tool	20%	Good	Focus on finalizing tool features	Refined skills in actuarial tool development to meet user needs in the insurance industry.	
	Further Development of Policy Admin System	20%	Good	Test and enhance feature functionality	Improved functionality and usability of the policy admin system, aligning it with industry standards.	
	Final Development in Preparation for Gralix InsurTech	20%	Good	Review all features and performance metrics before conference	Prepared the tool for demonstration, emphasizing polished	

	Conference				design and reliable functionality.	
OCTOBER	Research on Python Django Web Framework	10%	Fair	Continue practicing Django projects	Gained basic understanding of Django and its application for web-based actuarial solutions.	
	Updating IFRS17 Master Results with the Latest Template	10%	Good	Ensure consistency and accuracy	Learned the importance of consistency in financial report templates for IFRS compliance.	
	Report Updates (Liability Component Buildup, CSM Run-off ORSA, NB Recognition ORSA)	20%	Good	Standardize report formatting	Improved reporting skills and learned how ORSA requirements integrate with financial statements.	

	Fetching Actuarial and PAA Reports	20%	Good	Increase accuracy in fetching processes	Learned to navigate complex datasets efficiently to retrieve necessary report data.	
	Migration of GMM and PAA Tool to Django	10%	Fair	Focus on Django framework mastery	Recognized Django's advantages for web-based actuarial tool deployment.	
NOVEMBER	Finalizing and Testing All Tools for Presentation	TBD	TBD	TBD	TBD