

CURRICULUM VITAE of
APPIAH, SAMPSON TAKYI PhD (UMaT, GHANA), MSc (KNUST, GHANA), BSc (KNUST, GHANA)

A. PERSONAL INFORMATION:

| | | | |
|------------------------|--------|-----------------------|----------------|
| Surname: | Appiah | Other Names: | Sampson Takyi |
| Sex: | Male | Date of Birth: | April 15, 1976 |
| Place of Birth: | Kumasi | Nationality: | Ghanaian |

Languages Spoken:

English: Excellent written and oral skills Twi: Excellent written and oral skills

Address

Department of Mathematics and Statistics,
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Objective

To utilize the skills acquired as a Senior Lecturer and take up challenging opportunities to learn and improve upon my skills and to empower my students to demonstrate and value the knowledge they acquire.

B. ACADEMIC DEGREES EARNED AND UNIVERSITIES ATTENDED:

- i. PhD Mathematics, University of Mines and Technology, UMaT, Tarkwa, Ghana, 2015
- ii. MSc. Mathematics, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana, 2006
- iii. BSc Mathematics, KNUST, Kumasi, Ghana, 2002

C. MEMBERSHIP OF SCIENTIFIC INSTITUTIONS

- i. Member, National Association of Mathematicians, 2019
- ii. Member, NIMS Ghana
- iii. Member – Ghana Mathematics Society, 2008 to date.

D. TEACHING (PROFESSIONAL) AND RESEARCH EXPERIENCE

- i. Senior Lecturer, University of Energy and Natural Resources, Sunyani, Ghana, 2018 to date.
- ii. Senior Lecturer, Department of Mathematics Sciences, UMaT, Tarkwa, 2015 to 2018.
- iii. Lecturer, University of Mines and Technology (UMaT), Tarkwa, Ghana, 2007 to 2015.
- iv. Facilitator, KNUST Institute of Distance Learning, Tarkwa Center, 2011
- v. Lecturer, Sunyani Polytechnic, 2007
- vi. Teacher, Techiman Secondary School, 2004-2007

Subjects Taught

Table 1 Courses Taught

| COURSE CODE | COURSE TITLE | YEAR |
|----------------------------|--|--------------|
| Postgraduate Level | | |
| STAT 764 | Generalized Linear Models | 2019 |
| MATH 757 | Numerical Analysis | 2018 to date |
| MATH 763 | Research Methods and Mathematics Writing | 2018 to date |
| MA 571 | Applied Computational Methods | 2017 |
| MA 525 | Design and Analysis of Experiment | 2015 |
| MA 506 | Advanced Probability and Statistics | 2013 to 2018 |
| MA 528 | Sample Survey Theory | 2013 to 2018 |
| MA 527 | Application of Numerical Analysis to ODE | 2012 to 2018 |
| Undergraduate Level | | |
| MATH 409 | Game Theory | 2018 to date |
| MATH 407 | Application Development for Mathematics | 2018 to date |
| MATH 211 | History of Mathematics | 2018 to date |
| MATH 116 | Discrete Mathematics and Theory of Proof | 2019 to date |
| MATH 114 | Calculus | 2019 |
| STAT 086 | Medical Statistics | 2019 |
| STAT 304 | Time Series Analysis and Forecasting | 2019 |
| MA 375 | Regression Analysis | 2008 |
| M 277 | Probability and Statistics II | 2008 to 2018 |
| MA 473 | Sample Survey Theory | 2009 to 2018 |
| MA 278 | Physics I (Theoretical Mechanics) | 2009 – 2018 |
| MA 371 | Physics II (Continuum Mechanics) | 2007 – 2018 |
| MA 274 | Ordinary Differential Equations | 2009 – 2018 |
| MA 170 | Discrete Mathematics | 2010 |
| MN/MR 153 | Linear Algebra and Trigonometry | 2007 |
| MA 450 | Colloquium and Seminar | 2007 to 2009 |

Supervision of Students Research Project /Thesis

I have successfully supervised a total of 42 undergraduate research projects and 9 postgraduate thesis works.

External/Internal Examination: Eleven (11) PhD and Twenty-four (24) MPhil theses.

E. PUBLICATIONS

- i. Ankamah, J. D., Okyere, E., **Appiah, S. T.** And Nana-Kyere, S. (2021), “Nonlinear Dynamics of Covid-19 Seir Infection Model with Optimal Control Analysis”, *Communications in Mathematical Biology and Neuroscience*, 2021:13, pp. 1-19, ISSN: 2052-2541
- ii. **Appiah, S. T.**, Otoo, D. and Adjei, B.A. (2020) “A Multi-Vehicle, Multi-Factory Assignment Problem: A Case of Coca-Cola Bottling Company at Ahinsan and Spintex-Ghana”, *American Journal of Operations Research*, Vol. 10, No. 5, pp. 163-172. ISSN: 2160-8849
- iii. Iddrisu, W.A., **Appiah, S.T.**, Abdul-Mumin, K. and Ab-dul-Samed, A.-R. (2020) “Modelling the Im-pact and Effects of Climatic Variability on Electricity Energy Consumption in the Yen-di Municipality of Ghana”, *Open Journal of Energy Efficiency*, Vol. 9, pp. 1-13, ISSN: 2169-2645.
- iv. Otoo, H, **Appiah, S. T.**, Buabeng, A. (2020), “Testing causality and cointegration between saving and investment in Ghana”, *European Journal of Engineering Research and Science*, Vol. 5, No. 2, pp. 132-137, ISSN: 2506-8016.
- v. Otoo, H, **Appiah, S. T.**, Asiedu E. L. (2020), “A Mathematical Model of the Transmission Dynamics of Chikungunya Fever”, *International Journal of Scientific and Research Publications*, Vol. 10, No. 2, pp. 748-759.
- vi. Otoo, H, **Appiah, S. T.**, Apodei, M. (2019), “Minimising the Transportation Cost of an Oil Mill Company”, *International Journal of Science and Research*, Vol. 8, No. 12, pp. 1417-1425. ISSN: 2319-7064
- vii. Otoo, H, **Appiah, S. T.** and Arhinful, D. (2019), “Stability and Sensitivity Analysis of Yellow Fever Dynamics”, *European Journal of Engineering Research and Science*, Vol. 4, No. 12, pp. 159-166, ISSN: 2506-8016
- viii. **Appiah, S. T.**, Adjei, A. A., Otoo, D., Okyere, E. (2019), “Testing the Robustness of Linear Programming Using a Diet Problem on a Multi-Shop System”, *Journal of Advances in Mathematics and Computer Science*, Vol. 34, No. 5, pp. 1 – 12, ISSN: 2456-9968.
- ix. **Appiah, S. T.**, Buabeng, A., Odoi, B. (2018), “Comparative Study of Mathematical Models for Ghana’s Gold Production”, *Ghana Mining Journal*, Vol. 18, No. 1, pp. 78 - 83.
- x. **Appiah, S. T.**, Buabeng, A., Dumakor-Dupey, N. K. (2018), “Multivariate Analysis of the Effect of Climate Conditions on Gold Production in Ghana”, *Ghana Mining Journal*, Vol. 18, No. 1, pp. 72 - 77.
- xi. Agyarko, K., **Appiah, S. T.**, Simons, A. (2018), ‘Application of Generalized Estimating Equations to Non-Life Insurance Claims Reserve in Ghana -A Case Study’, *International Journal of Sciences*, Vol. 42, No. 1, pp. 72-80.
- xii. **Appiah, S. T.**, Dontwi, I. K. and Amegbey, N. A. (2017), ‘Comparing Mathematical Models for the Rate of Clot Dissolution during Laminar and Turbulent Flows using Reynolds Number’, *Ghana Journal of Technology*, Vol. 1, No. 2, pp. 27 - 31.

- xiii. **Appiah, S. T.**, Dontwi, I. K. and Amegbey, N. A. (2015), “Applications of Mathematical Models for Blood Flow in a Non-Occluded Artery/Vein of the Cardiovascular System”, *Aryabhata Journal of Mathematics and Informatics*, Vol. 7, NO. 1, pp. 9-20.
- xiv. **Appiah, S. T.**, Otoo, H., Nabubie, I. B. (2015), “Times Series Analysis of Malaria Cases in Ejisu- Juaben Municipality”, *International Journal of Scientific and Technology Research*, Vol. 4, No. 6, pp. 220-226.
- xv. Otoo, H., **Appiah, S. T.**, Wiah, E. N. (2015), “Regression and Time Series Analysis of Loan Default at Minescho Cooperative Credit Union, Tarkwa”, *International Journal of Scientific and Technology Research*, Vol. 4, No. 8, pp. 187-194.
- xvi. **Appiah, S. T.** (2013), “Using Mathematical Relations to Deduce the Rate of Clot Dissolution in the Human Circulatory System”, *International Journal of Mathematical Archive*, Vol. 4, No. 7, pp. 221-233.
- xvii. **Appiah, S. T.**, Wiah, E. N., Brew, L. and Kwateng, F. (2012) “Comparative Study of Mathematical Models for Population Projection “, *2nd UMaT Biennial International Mining and Mineral Conference*, pp. 359-365.
- xviii. **Appiah, T. S.**, Ofori T. Ackah, B. and Nyarko F, “Analysis of Road Accident Deaths in Ghana, Application of Times Series and Regression”, *2nd UMaT Biennial International Mining and Mineral Conference*, pp. 377 – 385.
- xix. **Appiah, S. T.** and I.A. Adetunde, Dontwi, I.K, (2011) “Mathematical Model of Blood Clot in the Human Cardiovascular System”, *International Journal of Research in Biochemistry and Biophysics*, 1(2): 9-16
- xx. **Appiah, S. T.** and Adetunde, I. A. (2011) “Forecasting Exchange Rate Between the Ghana Cedi and the US Dollar using Time Series Analysis”, *Current Research Journal of Economic Theory* 3(2): 76-83,
- xxi. Doku, A. K., Appiah kubi, B., **Appiah, S. T.** (2011) Modeling the Effects of Oligopolistic Behaviour of MTN and Tigo in the Telecommunication Markets: The Ghanaian Experience. *Journal of Emerging Trends in Economics and Management Sciences* 2(4): 238-242
- xxii. Adetunde I. A., Kodua M., Amporful J. K., Dwummoh-Sarpong A., Nyarko P. K., Ennin C. C., **Appiah S. T.**, Oladejo N. (2009), “Epidemiology of Chamydia Bacterial Infection- A Review”, *Journal of American Sciences; Volume 5-number 4*, pp 55-64. ISSN:1545-1003.
- xxiii. Dontwi, I.K., **Appiah, S. T.**, Boateng, F. O., Asiedu-Addo, S. K. (2006). “A Mathematical Model to Investigate Gain-Induced Oscillation in the Human Cardiovascular System”. *African Journal of Educational Studies in Mathematics and Sciences* Vol 4, pp 77-91.

F. CONFERENCES ATTENDED

- i. The 20th Biennial Computational Techniques and Applications Conference, UNSW Sydney, Australia, August 30, 2020 to September 2, 2020.
- ii. The Eighth Pacific Rim Conference in Mathematics, hosted by University of California, Berkeley, August 3, 2020 to August 11, 2020.
- iii. Accelerated action and transformative pathways: realizing the decade of action and delivery for sustainable development, UNITAR New York Office, Webinar, 7th to 16th July, 2020.

- iv. 4th UMaT Biennial International Conference on Innovations in Mining and Mineral Processing, Expanding the frontiers of Mining Technology, Tarkwa, Ghana from August 3, 2020 to August 6, 2016.
- v. 1st NIMS Ghana Conference on Modelling Industrial Problems, 28th November to 2nd December, 2017.
- vi. 3rd UMaT Biennial International Conference on Innovations in Mining and Mineral Processing in Tarkwa, Ghana from 25th to 28th July, 2014.
- vii. 2nd UMaT Biennial International Conference on Innovations in Mining and Mineral Processing in Tarkwa, Ghana from 25th to 28th July, 2012.
- viii. 1st University of Mines and Technology (UMaT) International Mining and Mineral Conference. Theme: Expanding the Frontiers of Mining Technology. (4th to 7th August, 2010), Tarkwa, Ghana.
- ix. 10th Bi- Annual Sub-Saharan African Network (SUSAN) Conference of the International Biometric Society (IBS). Theme: Achieving the Millennium Development Goals, The Role of the Biometrics. 2007, KNUST, Kumasi, Ghana.
- x. Annual Conference of The Ghana Mathematics Society. 2008, GNAT Hall, Accra, Ghana.

G. SEMINAR AND WORKSHOPS ATTENDED

- i. The Book Publishing Process: An Elsevier Author Workshop, Webinar, 2nd June, 2020.
- ii. Workshop on the theme: “Growing Together as a Department: The Role of Each Member”, 26th November, 2019, Mathematics and Statistics Department, UENR, Sunyani.
- iii. Workshop on Academic Leadership, 3rd to 4th October, 2019, UENR, Sunyani.
- iv. Workshop on Enhancing Research Support at the University, 2nd May, 2018, UMaT, Tarkwa.
- v. Seminar on Financial Management and Internal Audit Unit Operating System in the University, 1st February, 2018, UMaT, Tarkwa.
- vi. Workshop on Creating Learning Materials for open and Distance Learning (ODL), 1st – 3rd November, 2017, UMaT, Tarkwa.
- vii. Seminar on Format for the Writing of Theses, Project Work and Papers, November, 2017, UMaT, Tarkwa.
- viii. Seminar on E-Resources for Teaching, Learning and Research, October, 2017, UMaT, Tarkwa.
- ix. Seminar for Heads of Departments on Processing of Vision Statement Form, September, 2017, UMaT, Tarkwa.
- x. Seminar on Graduate Student Research Development and Mentoring: A Personal Perspective and Course Development, August, 2017, UMaT, Tarkwa.
- xi. Seminar on "Discussions on Increasing UMaT's Research Visibility", July, 2017, UMaT, Tarkwa.
- xii. Senior Academic Leadership Training Programme (SALT), Organised by the National Council for Tertiary Education (NCTE), 1st – 4th November, 2015, Accra.
- xiii. Workshop on Career Progression and Promotion Issues. Organised by the UMaT Planning and Quality Assurance Unit of Ghana. March 8, 2014, UMaT, Tarkwa, Ghana.
- xiv. Seminar on Role Play in Administration/Management. Organised by the UMaT Planning and Quality Assurance Unit of Ghana. January 31, 2014, UMaT, Tarkwa, Ghana.
- xv. Seminar on Research Proposal writing, Organised by the UMaT Planning and Quality Assurance Unit, 2013.

- xvi. Seminar on University Teaching and Examinations. Organised by the UMaT Planning and Quality Assurance Unit of Ghana. 2007, UMaT, Tarkwa, Ghana.

H. SERVICE TO COMMUNITY

Since my appointment into the University of Mines and Technology in May 2007, I have served the University community in the following important responsible positions:

i. *Administrative Experience*

| S/N | Service | Date |
|-----|--|----------------------------|
| 1 | Head, Department of Mathematics and Statistics, UENR | September, 2019 to date |
| 2 | Head, Department of Mathematical Sciences, UmaT | August, 2017 to July, 2018 |
| 3 | Training Officer, Faculty (School) of Engineering, UmaT | August, 2016 to July, 2017 |
| 4 | Training Officer, Department of Mathematical Sciences, UMaT, Tarkwa | August, 2010 to July, 2011 |
| 5 | Examination Officer, Department of Mathematical Sciences, UMaT, Tarkwa | August 2009 to July 2010 |

ii. *Membership of Statutory Committees*

| S/N | Service | Date |
|-----|---|---------------------------------|
| 1 | Member, School of Science Postgraduate Committee | July, 2020 to 2021 |
| 2 | Member, Graduate School Representative on ICT Committee, UENR | September, 2019 to August, 2020 |
| 3 | Departmental Representative to Academic Board, UENR | September, 2018 |
| 4 | Member, Ghana Universities Staff Superannuation Scheme (GUSSS) Management Committee, UmaT | January, 2016 to December, 2018 |
| 5 | Scrutineer, Election of a Non-Professorial Member on Council, Umat | October, 2017 |
| 6 | Mathematics Department Representative, Faculty of Engineering Board, UMaT, Tarkwa | August, 2012 to July, 2016 |
| 7 | Scrutineer, Election of Pro Vice Chancellor, UMaT, Tarkwa | November, 2010 |

iii. *Membership of Non-Statutory/Ad-hoc Committees*

| S/N | Service | Date |
|-----|---|-----------------|
| 1 | Chairman, Committee on Digitizing of Human Resource Forms, UENR. | October, 2020 |
| 2 | Member, Organizing Committee for One-Day Retreat, School of Sciences, UENR. | March, 2021 |
| 3 | Member, Committee to develop Strategic Plan for School of Sciences, UENR. | April, 2021 |
| 4 | Member, Curriculum Documents Review Committee for NCTE and NAB | February, 2020 |
| 5 | Member, Committee on Amendment of Grading System | September, 2019 |

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|----|--|----------------|
| | for Resit Examination | |
| 6 | Chairman, Committee to streamline various programmes of the Department so that it would be easier for students to switch between the programmes. | April, 2019 |
| 7 | Member, Committee on Programme Structures and Course Syllabi of BSc Financial Mathematics and BSc Data Science, UmaT | March, 2017 |
| 8 | Chairman, Robbery Investigations Committee, UmaT formed by Registrar | April, 2017 |
| 9 | Chairman, Investigations Committee on the assault on the Head of Security Unit, UmaT | June, 2017 |
| 10 | Chairman, Investigations Committee of the Security Unit | November, 2017 |
| 11 | Member, Board of Survey, UmaT | August, 2016 |
| 12 | Member, Committee on Five Years Development Plan for Mathematics Department | March, 2015 |
| 13 | Member, Committee on Loss of CCTV Monitor Cable | May, 2015 |
| 14 | Undergraduate Curriculum Review Committee, Mathematics Department, UMaT, Tarkwa | April, 2014 |
| 15 | Committee to Review the MSc Programme of Mathematics Department, UMaT, Tarkwa | March, 2014 |
| 16 | Member, Committee to Review Tax Deductions of UTAG Members, UMaT, Tarkwa | May, 2012 |

iv. Service to National/ International Community

| S/N | Service | Date |
|------------|--|-----------------------------|
| 1 | Examiner, PhD. Theses for two candidates, UDS | January, 2020 |
| 2 | Examiner, Mphil. Theses for two candidates, UDS | August, 2019 |
| 3 | Moderator, Department of Accountancy, STU, Sunyani | July, 2020 |
| 4 | Examiner, PhD. Theses of John Amoah-Mensah, KNUST | October, 2019 |
| 5 | Examiner of PhD. Theses of Henry Martin, KNUST | October, 2019 |
| 6 | Sectional Editor, Ghana Mining Journal and Ghana Journal of Technology | January, 2017 to July, 2018 |
| 7 | Member, Committee to Review Programme Structure and Course Syllabuses for Ghana Telecom University College | January, 2017 |
| 8 | Moderator, Post-Moderation and Pre-Moderation of Examination Questions, Ashesi University College | December, 2017 |
| 9 | Member, National Institute of Mathematical Sciences (NIMS) Management Board | August, 2017 |
| 10 | Member, National Institute of Mathematical Sciences (NIMS) Management Board | July, 2016 |
| 11 | Reviewer, International Journal of Tropical Disease and Health | 2020 |
| 12 | Member, International Biometric Society (IBS) | July, 2020 |

I. HOBBIES

Teaching and Learning, Counseling people, and Playing Chess.

J. REFEREE:

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