1. College	Chancellor College
2. Faculty/School of	Science
3. Department	Mathematical Sciences
4. Programme	Bachelor of Science in Mathematics
5. Module Title	Introduction to Mathematical Computing
6. Module Code	MAT213
7. Year	Two
8. Credits	12
9. Number of Lectures per Week	3
10. Number of Tutorials/Practicals per Week	1
11. Revised	After 5 years
12. Approval Date	August 2016

13. **Prerequisites:** COM111, COM121

14. **Co-requisites:** MAT212

15. **Module Aim**
To provide students with basic knowledge of computing tools to solve mathematical problems

16. **Intended Learning Outcomes**
On successful completion of this module, students should be able to:
a) solve mathematical problems using available computing tools.
b) write computer programs to solve mathematical problems,
c) execute mathematical computer programmes.

17. **Indicative Content**

a) Programming in Mathematical packages, e.g. MATLAB, MAPLE, MATHEMATICA.
b) Numerical differentiation.
c) Numerical integration.
d) Solving systems of linear equations.

18. Assessment

Continuous Assessment 40%; Final Examination 60%.

19. Teaching and Learning Methods / Activities

Seminars/presentations, lectures, tutorials, group work, assignments, demonstrations.

20. Recommended Resources and Prescribed Reading Lists

Prescribed Readings

Borwein, J. M. & Matthew, P. S. (2012). *An Introduction to Modern Mathematical Computing*. New York: Springer.

Gilat, A. (2008). *MATLAB: An Introduction with Applications*. New York: John Wiley & Sons.

Mathews, J. & Fink, K. (2004). *Numerical Methods using MATLAB*. New Jersey: Person Prentice Hall.

Recommended Readings

Hahn, B. & Valentine, D. (2012). Essential Matlab for Engineers and Scientists (5th ed.). Berlin: Elsevier Ltd

Quarteroni, A. & Saleri F. (2006). *Scientific Computing with MATLAB and Octave*. Berlin: Springer.

Journals

Mathematics of Computation: American Mathematical Society

Journal of Computational Mathematics: Global Science Press