Case for Including Computer Science/IT related subjects into UTME Subjects

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FNIM, FNCS

Introduction

- JAMB is responsible for conducting Matriculation Examination for entry into all Degree-awarding institutions, Polytechnics, Monotechnics, Innovative Enterprise Institutes and Colleges of Education in Nigeria.

- The Board conducted the first matriculation examination for entry into all Degree-awarding, Institutions in 1979, Polytechnics and Colleges of Education in 1991, Monotechnics in 1998 and Innovative Enterprises Institutes in 2009 in Nigeria.

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- In reaching out to applicants, the Board publishes essential information/ guidelines

- in the Brochure.

- The Brochure provides applicants with detailed information on Courses and programs with their entry requirements leading to the award of First Degree, National Diploma, National Innovation Diploma and Nigeria Certificate in Education in Tertiary Institutions in Nigeria.

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Entry Requirements?

- Entry requirements are the grades and conditions an applicant needs to meet in order to successfully apply to a college course.

- This could be a specific qualification, subject, or grade, or a certain grade in a certain subject (or subjects) relevant to the course the candidate is applying for.

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UTME

- All courses in UTME require that all candidates must write the Use of English paper in addition to three other subjects because they are all expected to be able to read and write in English as a test of literacy because literacy is often defined as the ability to read and write.

- Literacy is important because students need to engage with the written word in everyday life.

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UNESCO New Definition Of Literacy

- UNESCO defined "*literacy as the ability to identify, understand, interpret, create, communicate and* **compute**, *using printed and written materials associated with varying contexts.*"

- Thus, it has become very necessary for every student to have the ability of not only to read and write but also to compute.

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Importance Of Computer Knowledge

- The ability to identify, understand, interpret, create, communicate and compute, are essential skills required in research.

- Computer education provides the most important tool for research in today's life.

- The Internet is a major source of printed and written materials associated with varying context.

- So, the knowledge about computers is necessary for everyone to have.

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Do WAEC/GCE Courses offer Courses that enables true literacy?

Yes because WAEC/GCE syllabi contain three computing courses.

- AVAILABLE WAEC/GCE COURSES

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WAEC /GCE subjects (1)

- ARABIC
- Agricultural Science
- Animal Husbandry (ALT A)
- Animal Husbandry (ALT B)
- Applied Electricity or Basic Electricity
- Auto Body Repairs and Spray Painting
- Auto Electrical
- Auto Mechanical
- Auto Mechanics
- Auto Parts Merchandizing

WAEC /GCE subjects (2)

- Basketry
- Biology
- Blocklaying, Bricklaying and Concreting
- Book Keeping
- Building Construction
- Business Management
- Carpentry and Joinery
- Catering Craft Practice
- Ceramic
- Chemistry

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WAEC /GCE subjects (3)

- Christian Religious Study
- Civic Education
- Clerical Office Duties
- Clothing and Textiles
- Commerce
- **Computer Studies**
- Cosmetology
- Crop Husbandry and Horticulture
- **Data Processing**

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WAEC /GCE subjects (4)

- Dyeing & Bleaching
- Economics
- Edo
- Efik
- Electrical Installation & Maintenance Work
- Electronics or Basic Electronics
- English Language
- Financial Accounting
- Financial Accounts

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WAEC /GCE subjects (5)

- Fisheries (ALT A)
- Fisheries (ALT B)
- Foods & Nutrition
- Forestry
- French
- Furniture Making
- Further Mathematics or Mathematics(Elective)
- Garment Making
- General Agriculture

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WAEC /GCE subjects (6)

- General Knowledge in Art
- General Mathematics or Mathematics (Core)
- Geography
- Ghanaian Languages
- Government
- Graphic Design
- GSM Phones Maintenance and Repairs
- Hausa
- Health Education or Health Science

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WAEC /GCE subjects (7)

- History
- Home Management
- Ibibio
- Igbo
- **Information & Communication Technology(core)**
- **Information & Communication Technology (Elective)**
- Insurance
- Integrated Science
- Islamic Religious Studies

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WAEC /GCE subjects (8)

- Jewellery
- Leather Goods
- Leatherwork
- Literature in English
- Machine Woodworking
- Marketing
- Metalwork
- Mining
- Music
- Music (New)

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WAEC /GCE subjects (9)

- Office Practice
- Painting & Decorating
- Photography
- Physical Education
- Physics
- Picture Making
- Plumbing and Pipe Fitting
- Principle of Cost Accounting
- Printing Craft Practice

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WAEC /GCE subjects (10)

- Radio, Television & Electronics Works
- Refrigeration & Air Conditioning
- Salesmanship
- Sculpture
- Shorthand
- Social Studies (New)
- Store Keeping
- Store Management
- Technical Drawing
- Textiles
- Tourism

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WAEC /GCE subjects (11)

- Typewriting
- Typewriting (2)
- Upholstery
- Visual Art
- Welding & Fabrication Engineering Craft Practice
- West African Traditional Religion
- Woodwork
- Woodwork to I.E.D
- Woodwork (GH)
- Yoruba

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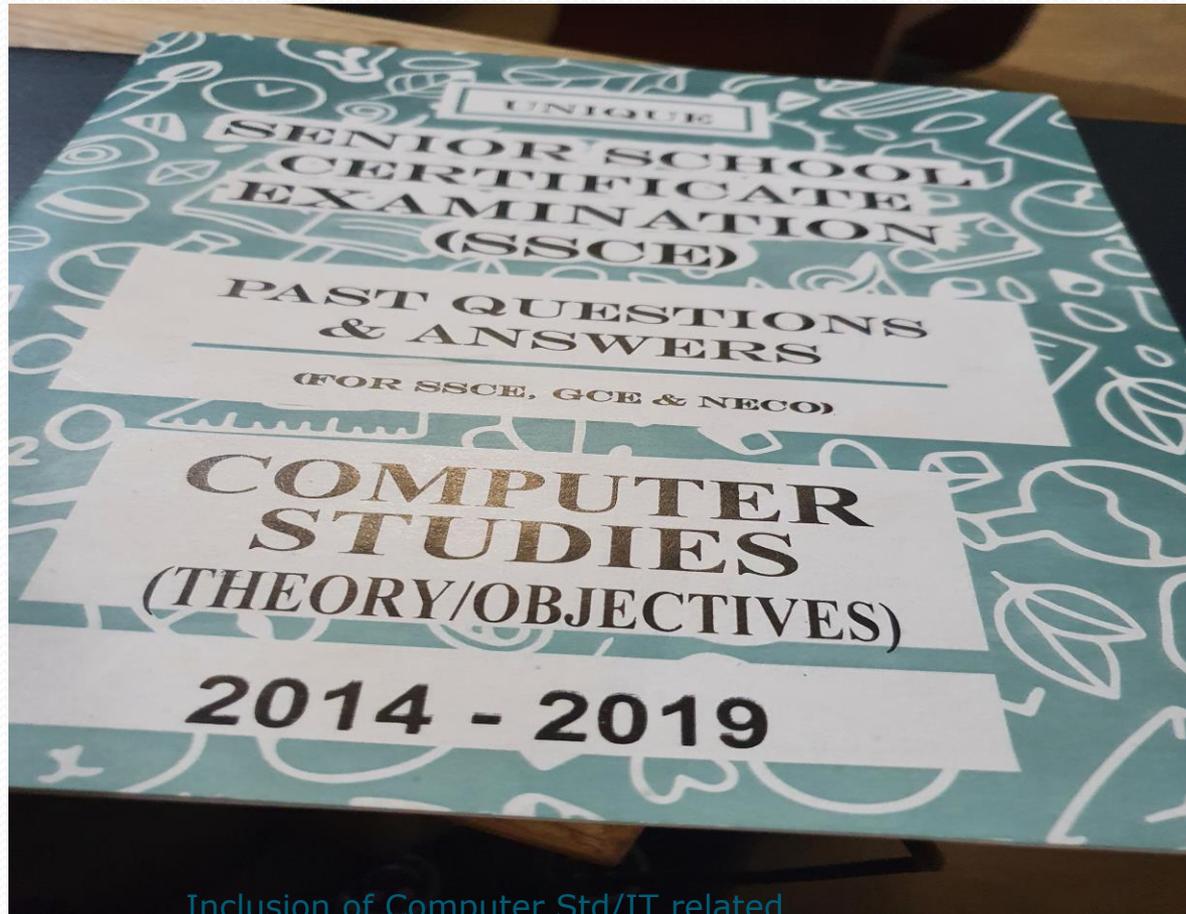
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WAEC / GCE course made three computing courses available

1. Computer Studies
2. Data Processing and
3. Information & Communication Technology (Core & Elective)

WAEC/GCE syllabi conform to UNESCO new definition of literacy

NECO, NABTEB Syllabi also conform to UNESCO definition of Literacy.

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Computer Studies

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Does UTME Course List conform to UNESCO Definition of Literacy?

- NO!

- CURRENT UTME ENTRY REQUIREMENTS

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Faculty of Administration (1)

- 1. Accountancy
  - **Use of English**, Mathematics, Economics and any other Social Science subject.
- 2. Banking and Finance
  - **Use of English**, Mathematics, Economics, plus one of Government and Geography.
- 3. Business Administration
  - **Use of English,** Mathematics, Economics plus one of Government and Geography.
- 4. Business Management
  - **Use of English,** Mathematics, Economics plus one of Government and Geography.

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Faculty of Administration (2)

- 5. Cooperative and Rural Development
  - **Use of English,** Mathematics, Economics plus one other subject.
- 6. Human Resources Management
  - **Use of English,** Economics, Government and any other relevant subjects.
- 7. Industrial Relations
  - **Use of English**, Mathematics, Economics plus one other relevant subject.
- 8. Insurance
  - **Use of English**, Mathematics, Economics and one other subject.

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Faculty of Administration (3)

- 9. International Relations
  - **Use of English**, Economics, Literature in English and Geography/Government/History.
- 10. Marketing
  - **Use of English,** Mathematics, Economics plus one other relevant Subject.
- 11. Mass Communication
  - **Use of English**, Literature in English, Economics and Government.
- 12. Tourism
  - **Use of English**, Mathematics, Economics and any other subject.

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Faculty of Agriculture (1)

- 1. Agriculture
  - **Use of English**, Chemistry, Biology/Agriculture and any one of Physics and Mathematics.
- 2. Agricultural Economics
  - **Use of English**, Chemistry, Biology/ Agricultural Science and Mathematics or Physics.
- 3. Agricultural Engineering
  - **Use of English**, Mathematics, Physics and Chemistry.
- 4. Agricultural Extension
  - **Use of English**, Chemistry, Biology/Agricultural Science plus Mathematics or Physics.

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Faculty of Agriculture (2)

- 5. Agronomy
  - **Use of English**, Chemistry, Biology or Agriculture and Physics or Mathematics.
- 6. Animal Production and Science
  - **Use of English**, Chemistry, Biology/Agric Science and Physics/Mathematics.
- 7. Crop Production and Science
  - **Use of English**, Chemistry, Biology/Agriculture and Mathematics or Physics.
- 8. Fisheries:
  - **Use of English**, Chemistry, Biology/Agricultural Science and any other Science subject.

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Faculty of Agriculture (3)

- 9. Food Science and Technology
  - **Use of English**, Chemistry, Mathematics / Physics and Agricultural Science.
- 10. Forestry
  - **Use of English**, Chemistry, Biology or Agriculture and Physics or Mathematics.
- 11. Home Science
  - **Use of English**, Chemistry, Biology or Agriculture and Mathematics or Physics.
- 12. Nutrition and Dietetics
  - **Use of English**, Chemistry, Biology/Agriculture and Mathematics/Physics.

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Faculty of Agriculture (4)

- 13. Soil Science
  - **Use of English**, Chemistry, Biology or Agricultural Science plus Mathematics or Physics.

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Faculty of Arts & Humanities (1)

- 1. Christian Religious Studies
  - **Use of English**, two Arts subjects including Christian Religious Knowledge and any other subject.
- 2. English and Literary Studies
  - **Use of English**, Literature in English, one other Arts subject and another Arts or Social Science subject.
- 3. Fine and Applied Arts
  - **Use of English**, Fine Art and two other Arts subjects or Social Science subject.
- 4. Islamic Studies:
  - **Use of English**, Islamic Religious Studies plus two other Arts subjects.

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Faculty of Arts & Humanities (2)

- 5. Languages and Linguistics
  - **Use of English**, One Arts subject and two other subjects.
- 6. Literature in English
  - **Use of English**, Literature-in-English, one other Arts subject and another Arts or Social Science subject.
- 7. French
  - **Use of English**, French and any other two subjects from Arts and Social Sciences.
- 8. Hausa
  - **Use of English**, Hausa, Lit in English and any of Economics, Government, History and Arabic.

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Faculty of Arts & Humanities (3)

- 9. History
  - Use of English, History and any other two subjects from Arts and Social Sciences.
- 10. History and International Studies
  - **Use of English**, History/Government and any other two subjects from Arts & Social Science.
- 11. Igbo
  - **Use of English**, Igbo and two subjects from Arts and social Sciences.
- 12. Linguistics:
  - **Use of English**, Any Language and two other subjects.

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Faculty of Arts & Humanities (4)

- 13. Mass Communication
  - **Use of English**, Any three Arts and Social Science subjects.
- 14. Music
  - **Use of English,** Music, one other Arts subject plus any other subject.
- 15. Theatre Arts
  - **Use of English**, Literature in English and two other relevant subjects.
- 16. Yoruba
  - **Use of English**, Yoruba and two other subjects in Arts or Social Sciences.

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Faculty of Engineering(1)

- 1. Agricultural and Bio-Resources Engineering
  - **Use of English**, Mathematics, Chemistry and Physics.
- 2. Civil Engineering
  - **Use of English**, Mathematics, Physics and Chemistry.
- 3. Chemical Engineering
  - **Use of English**, Mathematics, Physics and Chemistry.
- 4. Computer Engineering
  - **Use of English**, Mathematics, Physics and Chemistry.

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Faculty of Engineering(2)

- 5. Electrical Engineering
  - **Use of English**, Mathematics, Physics and Chemistry.
- 6. Electronic Engineering
  - **Use of English,** Mathematics, Physics and Chemistry.
- 7. Marine Engineering
  - **Use of English,** Mathematics, Physics and Chemistry.
- 8. Mechanical Engineering
  - **Use of English**, Mathematics, Physics and Chemistry.

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Faculty of Engineering(3)

- Mechatronics Engineering
  - **Use of English,** Physics, Chemistry and Mathematics.
- 10. Metallurgical and Materials Engineering
  - **Use of English,** Mathematics, Physics and Chemistry.
- 11. Petroleum and Gas Engineering
  - **Use of English,** Mathematics, Physics and Chemistry.
- 12. Production and Industrial Engineering
  - **Use of English,** Mathematics, Physics and Chemistry.

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Faculty of Engineering(4)

- 13. Structural Engineering
  - **Use of English**, Mathematics, Physics and Chemistry.

- 14. Systems Engineering
  - **Use of English**, Mathematics, Physics and Chemistry.

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Faculty of Environmental Sciences and Technology (1)

- 1. Architecture
  - **Use of English,** Physics, Mathematics, and any of Chemistry, Geography, Art, Biology and Economics.
- 2. Building
  - **Use of English,** Physics, Mathematics, Chemistry.
- 3. Estate Management
  - **Use of English,** Mathematics, Economics and one other subject.
- 4. Quantity Surveying
  - **Use of English,** Physics, Mathematics, and any of Chemistry, Geography, Art, Biology and Economics.

Faculty of Environmental Sciences and Technology (2)

- Surveying and Geoinformatics
  - **Use of English,** Physics, Mathematics, and any of Chemistry, Geography, Art, Biology and Economics.

- 6. Urban and Regional Planning
  - **Use of English**, Mathematics, Geography and one of Economics, Physics, Chemistry.

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Faculty of Law

- 1. Civil Law
  - **Use English**, Any three Arts or Social Science subjects.
- 2. Common Law
  - **Use of English**, Literature-in-English and any two other Arts/or Social Science subjects.
- 3. Criminology And Security Studies
  - **Use of English**, Any three subjects.
- 4. Islamic / Sharia Law
  - **Use of English**, Any three Arts or Social Science subjects including Arabic or Islamic Studies.
- 5. Law:
  - **Use of English**, Any three Arts or Social Science subjects.

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Faculty of Medical, Pharmaceutical and Health Sciences (1)

- 1. Anatomy
  - **Use of English**, Mathematics, Biology and Chemistry or Physics.
- 2. Dentistry
  - **Use of English**, Chemistry, Biology and one Science subject.
- 3. Medical Laboratory Science:
  - **Use of English**, Physics, Chemistry and Biology.
- 4. Medical Rehabilitation:
  - **Use of English**, Physics, Chemistry and Biology

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Faculty of Medical, Pharmaceutical and Health Sciences (2)

- 5. Medicine and Surgery
  - **Use of English**, Biology, Physics and Chemistry.
- 6. Nursing
  - **Use of English**, Physics, Biology and Chemistry.
- 7. Pharmacy
  - **Use of English**, Biology, Physics and Chemistry.
- 8. Physiology
  - **Use of English**, Biology, Physics and Chemistry.

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Faculty of Medical, Pharmaceutical and Health Sciences (3)

- 9. Physiotherapy
  - **Use of English**, Biology, Physics and Chemistry.

- 10. Radiography
  - **Use of English**, Biology, Physics and Chemistry.

- 11. Veterinary Medicine
  - **Use of English**, Biology, Physics and Chemistry.

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Faculty of Sciences (1)

- 1. Biochemistry
  - **Use of English**, Biology, Chemistry, and Physics or Mathematics
- 2. Biological Sciences
  - **Use of English**, Biology, Chemistry and Physics or Mathematics.
- 3. Botany
  - **Use of English**, Biology, Chemistry and any other Science subject.
- 4. Chemistry:
  - **Use of English**, Chemistry and two of Physics, Biology and Mathematics.

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Faculty of Sciences (2)

- 5. Computer Science
  - **Use of English**, Mathematics, Physics, and one of Biology, Chemistry, Agricultural Science, Economics and Geography.
- 6. Geology
  - **Use of English** and any three Chemistry, Physics, Mathematics, Biology and Geography.
- 7. Industrial Chemistry
  - **Use of English,** Chemistry, Mathematics and any of Physics/Biology/Agricultural Science.
- 8. Industrial Mathematics
  - **Use of English**, Mathematics and any two of Physics, Chemistry, Economics, Biology and Agricultural Science.

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Faculty of Sciences (3)

- 9. Mathematics
  - **Use of English**, Mathematics and any two of Physics, Chemistry and Economics or Geography.
- 10. Microbiology
  - **Use of English**, Biology, Chemistry and either Physics or Mathematics.
- 11. Physics
  - **Use of English**, Physics, Mathematics and Chemistry or Biology.
- 12. Plant Science and Biotechnology
  - **Use of English**, Biology, Chemistry and any other Science subject.

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Faculty of Sciences (4)

- 13. Pure and Applied Mathematics
  - **Use of English**, Mathematics, Physics and Biology or Agricultural Science or Chemistry or Geography.
- 14. Statistics
  - **Use of English**, Mathematics and any two of Physics, Chemistry and Economics.
- 15. Zoology
  - **Use of English**, Biology and any two of Physics, Chemistry and Mathematics.

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Faculty of Social and Management Sciences (1)

- 1. Demography and Social Statistics
  - **Use of English**, Mathematics, Economics/Geography and any other subject.
- 2. Economics
  - **Use of English**, Mathematics, Economics and any of Government, History, Geography, Literature in English, French and CRK/IRK.
- 3. Geography
  - **Use of English**, Geography and two other Arts or Social Science subjects.
- 4. Library Science
  - **Use of English** and Any three Arts or Social Science subjects.

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Faculty of Social and Management Sciences (2)

- 5. Mass Communication
  - **Use of English**, and any three from Arts or Social Science subjects.
- 6. Philosophy
  - **Use of English**, Government and any other two subjects.
- 7. Political Science
  - **Use of English**, Government or History plus two other Social Science/Arts subjects.
- 8. Psychology
  - **Use of English**, and any three subjects from Arts or Social Science.

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Faculty of Social and Management Sciences (3)

- 9. Public Administration
  - **Use of English**, Mathematics, Economics and any other subject.
- 10. Religious Studies
  - **Use of English**, CRK/IRS and any two other subjects.
- 11. Social Works
  - **Use of English**, Mathematics, Economics/Geography and any other subject.
- 12. Sociology and Anthropology
  - **Use of English**, Government or History plus two other Social Science/Arts Subjects.

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- No Computing Courses is listed in any of the broad requirements for all courses. Thus, none of the requirements conform with the definition of Literacy by UNESCO.

- Why

- There are no Computing courses available in the UTME subjects in spite of the fact that we are now in the information age where all courses today depends on IT

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UTME Art Subjects (1)

- Arabic Studies
- English
- English Literature
- French
- German
- Greek
- Hausa Language/Literature
- History
- Igbo/Igbo Literature

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UTME Art Subjects (2)

Islamic Studies

- Language Arts
- Latin
- Religious Studies
- Theatre Arts
- Yoruba Language/Literature
- Christian Religious Studies (CRS)
- Other Nigerian Languages
- Music

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UTME Science Subjects (1)

- Agric. Science
- Additional Mathematics
- Biology
- Geology
- Statistics
- Botany/General Biology/Rural Biology
- Chemistry
- Geography
- Pure mathematics/Applied Mathematics

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UTME Science Subjects (2)

- Statistics
- Zoology
- General Science
- Health science
- Human Biology
- Hygiene & Psychology
- Food & Nutrition
- Integrated Science
- Applied Electricity

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UTME Science Subjects (3)

- Arithmetic & Basic Mathematics
- Rural science
- Technical Drawing/Building/Engineering Drawing
- Human Anatomy

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UTME Social Science Subjects

- Economics
- Government
- Geography
- Commerce
- Principle of Accounts
- Book Keeping
- Business Methods/Management
- Social studies

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UTME Vocational Subjects (1)

- Typewriting
- Office Practice
- Business Methods
- Business Management
- Home Management
- Men/Ladies Garment
- Basic Catering/Food Services
- Baking & Confectionaries
- Hotel & Catering, cookery

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UTME Vocational Subjects (2)

- Weaving
- Clothing/Textile
- Surface Design & Printing
- Bleaching, Dyeing and Finishing
- Woodwork
- Metalwork
- Applied Electricity
- Auto Mechanics
- Basic Electricity
- Building Construction
- Electronics
- Elementary Survey

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Computer Studies, Data Processing & ICT courses are Missing in the available UTME courses though they have been available in WAEC/GCE/NECO since at least 2014

This explains why none of the course requirements has any computing course as part of its requirements.

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SOLUTION

- Introduce appropriate UTME Computing Courses into the requirements of the different programs.
- The Contents of the three Computing Courses will determine which ones goes to each program.

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Content of WAEC/GCE Computer Studies

1. Computer fundamentals and evolution
2. Computer hardware
3. Computer Software
4. Basic Computer Operations
5. Computer Applications
6. Managing Computer files
7. Developing Problem-solving skills
8. 8. Information and Communication Technology
9. Computer ethics and human issues

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Content of WAEC/GCE Data Processing

1. Information Age (History of Computers, Data & Information)

2. Data and Information

3. Basic Computing (Classification of Computers, Application of ICT in everyday life, Components of Computers)

4. Information Processing (The art of Information Processing)

5. Information Transmission (Process of Information Transmission, Medium of Information Processing, Network, Internet)

Content of WAEC/GCE Data Processing (2)

6. Tools for Information Processing

(Operating System, Word Processing, Spreadsheet, Data Base Management System, Presentation Package, Web Design Packages, Graphic   Packages)

7. Computer Maintenance, Ethics & Human Issues (Maintenance of Computers, Computer Ethics, Safety Measures, Career Opportunities in Data Processing, Computer Virus)

8. Data Management

(Relational Model, File organization, Data Security, Parallel & Distributed Data Bases)

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Content of WAEC/ICT (Elective)

- Introduction to Basic ICT Concepts & Computers
- Computer Hardware
- Computer Software
- Threat to Computers and Users
- Computer Packages (Word, Spreadsheet, Presentation)
- Internet

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Content of WAEC/ICT (Core)

- Data Presentation
- Introduction to Information System
- Introduction to Digital Technology Culture
- Word Processing
- Desk Top Publishing
- Spreadsheet
- Hardware
- Software
- Networking
- Introduction to Programming
- Data Base Management System
- Application of ICT Tools in Education

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Computer Science /Related Courses available in Degree awarding Institutions in Nigeria (1)

- Computer Education
- Education & Computer Science
- Computer Science & Statistics
- Computer Science & Mathematics
- Computer Science & Economics
- Computer Science & Physics
- Computer Engineering
- Computer Science
- Software Engineering

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Computer Science /Related Courses available in Degree awarding Institutions in Nigeria (2)

- Information Technology
- Information Systems
- Bioinformatics
- Geographical Information Systems
- Management Information Systems
- Computer Science & Electronics
- Computer Science & Information Science
- Data Management
- Cyber Security
- Computer Science & Informatics

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Entry requirement for Computing related programs in degree awarding institutions.

- All the computing programs in degree awarding institutions should have Computer Studies/ICT Core as one of its entry requirements.

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Computer Science /Related Courses available in Colleges of Education (1)

- Computer Science/Special Education
- Computer Science/Yoruba
- Computer Education/Islamic Studies
- Computer Science/Igbo
- Computer Science/Edo
- Computer Science/Hausa
- Computer Science/French
- Computer Science/Fine & Applied Arts
- Computer Science/Social Studies

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Computer Science /Related Courses available in Colleges of Education (2)

- Computer Science/Business Studies
- Computer Science/Secretariat Studies
- Computer Science/Political Science
- Computer Education/Geography
- Computer Education/Physics
- Computer Education/English
- Computer Education/Integrated Science
- Computer Education/Music
- Computer Education/Biology

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Computer Science /Related Courses available in Colleges of Education (3)

- Computer Education/Economics
- Computer Education/Chemistry
- Computer Education/Accounting

- ***All of these courses should have Data Processing/ICT Elective as one of the entry requirements***

- ***The various combined diplomas available here underpin the relevance of Computing to all fields of endeavor.***

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Computer Science /Related Courses available in Polytechnics/Monotechnics

- Computer Engineering
- Computer Studies/Science
- Computer Software Engineering Technology
- Computer Hardware Engineering Technology
- Networking & System Security
- Digital Multimedia Technology

These courses should also have Computer Studies/ICT Core as one of their entry requirements

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Relationships of Computing to other disciplines

- Examples of relationships of Computer Science/IT disciplines to other disciplines

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Digital Humanities (DH)

- Digital humanities (DH) is an area of scholarly activity at the intersection of computing or digital technologies and the disciplines of the humanities.

- It includes the systematic use of digital resources in the humanities, as well as the analysis of their application.

- DH can be defined as new ways of doing scholarship that involve collaborative, transdisciplinary, and computationally engaged research, teaching, and publishing.

- It brings digital tools and methods to the study of the humanities with the recognition that the printed word is no longer the main medium for knowledge production and distribution.

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Digital Humanities (2)

- By producing and using new applications and techniques, DH makes new kinds of teaching and research possible, while at the same time studying and critiquing how these impact cultural heritage and digital culture.

- Thus, a distinctive feature of DH is its cultivation of a two-way relationship between the humanities and the digital.

- DH employs technology in the pursuit of humanities research and subjects technology to humanistic questioning and interrogation, often simultaneously.

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Digital Humanities

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Digital Humanities – Specific Example

HistoryCultural analyticsLiterature

From Wikipedia, the free encyclopedia

Example of a textual analysis program being used to study a novel, with Jane Austen's *Pride and Prejudice* in <u>Voyant Tools</u>

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Integrating traditional basket weaving craft into computer aided design

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Use of IT in Agriculture

USE OF IT IN AGRICULTURE

1. Office automation
2. Wireless technologies
3. Global Positioning System
4. Geographic information systems
5. Computer-controlled devices (automated systems)
6. Smartphone mobile apps in Agriculture
7. RFID
8. Knowledge management systems
9. E-learning
10. E-commerce
11. Agricultural resources and services management
12. Computer-aided manufacturing
13. Computer-aided design

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Agriculture & Animal Husbandry
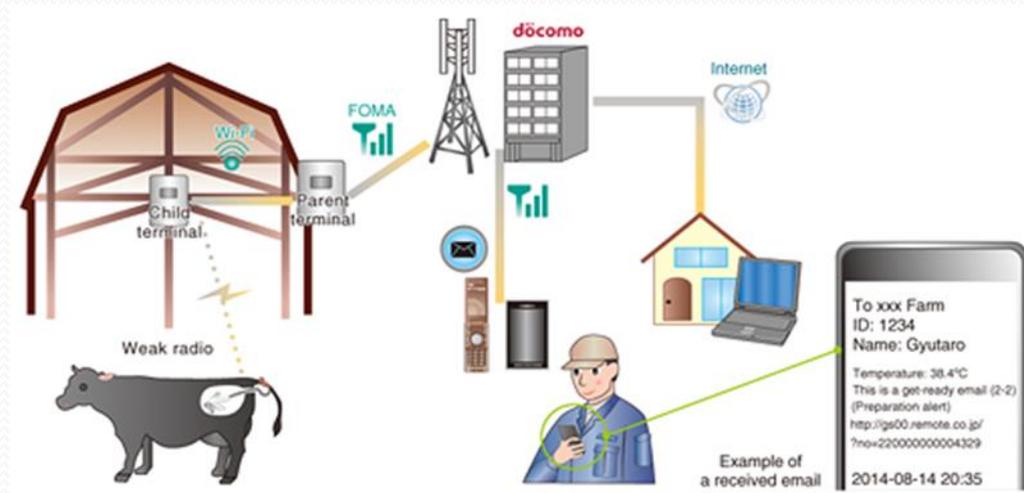
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Computer Science in Science

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Computer Science & Veterinary

Role In Veterinary Hospital:

Data management within a hospital

1. Patient demographics,
2. Signalment,
3. Final Diagnosis,
4. Medical-surgical Summaries
5. Anaesthesia and drug history

It enables highly specific personalized treatment

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Computing & Medical

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Ultra Sound

ULTRASOUND CT (USCT)

- Using DSP, **Ultrasound Computer Tomography (USCT)** produces 3D images by lining several ultrasound transducer arrays.

- Images can be constructed using several algorithms, like the Synthetic Aperture Focusing Technique **(SAFT).**

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In Applied Electricity
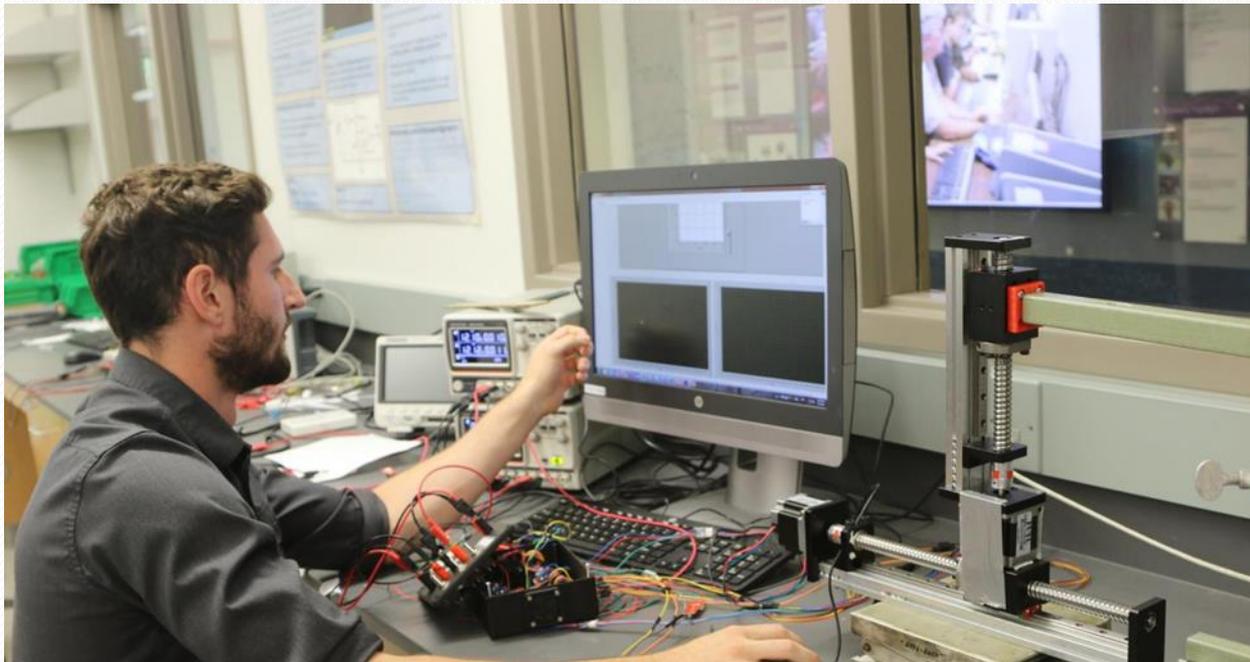
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Applied Electricity

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In Geography

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Analytical Chemistry

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Daily Lives

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COVID-19

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Business Communication

Business Communication

- Now-a-days companies use email, live chat systems, online meeting tools, video-conferencing system and smart-phones as the principal means of communication between employees, suppliers and customers.
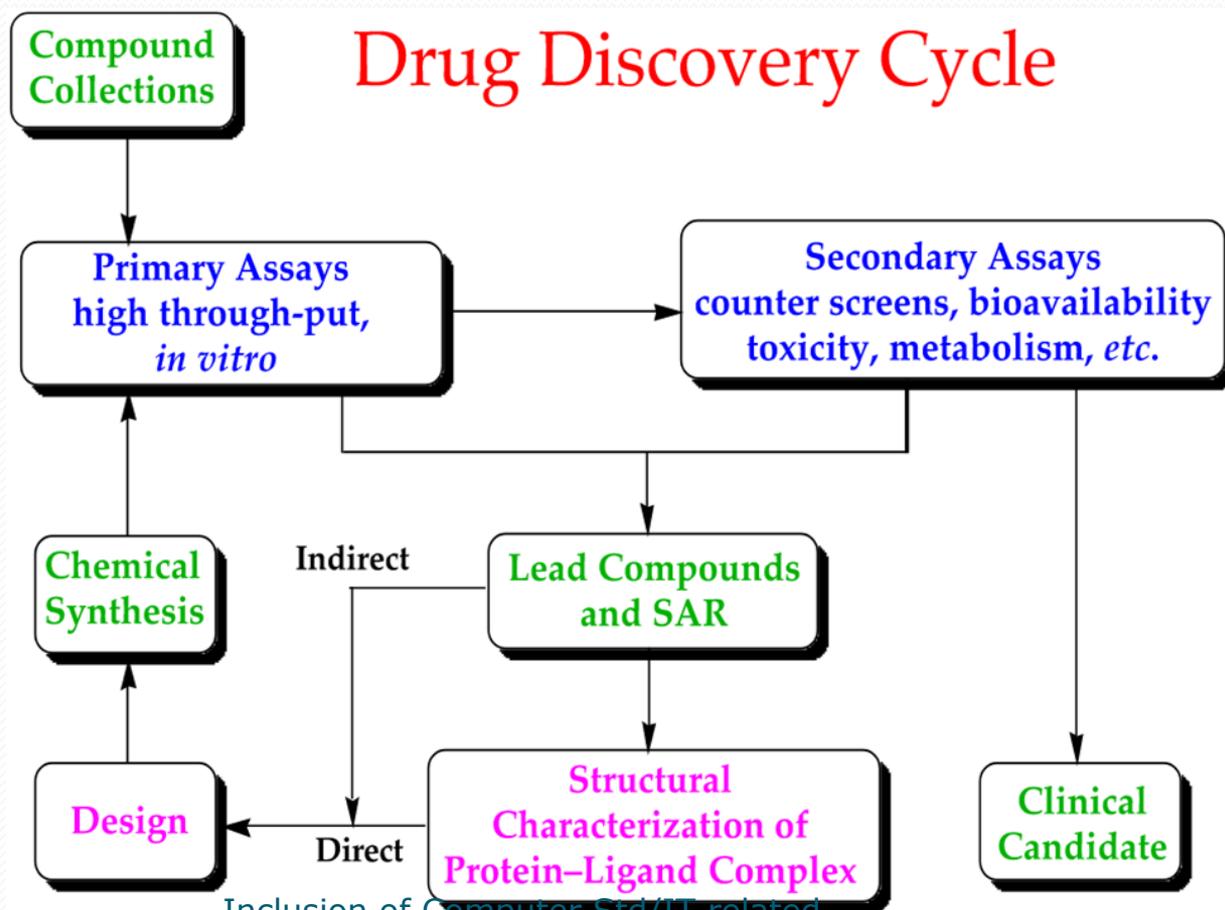
Music

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Drug Discovery


Drug Discovery Cycle

Medical Physics

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Computer & Health Care

- Computers for Medication and Treatment
- Computers for Security and Organized Record Keeping
- Medical computer carts
- Computers for Offsite Care
- Computers for Surgical Procedures
- Computers for Communication and Inventory Management

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PROCESS CHAIN IN A TYPICAL AUTOMOTIVE PAINT SHOP
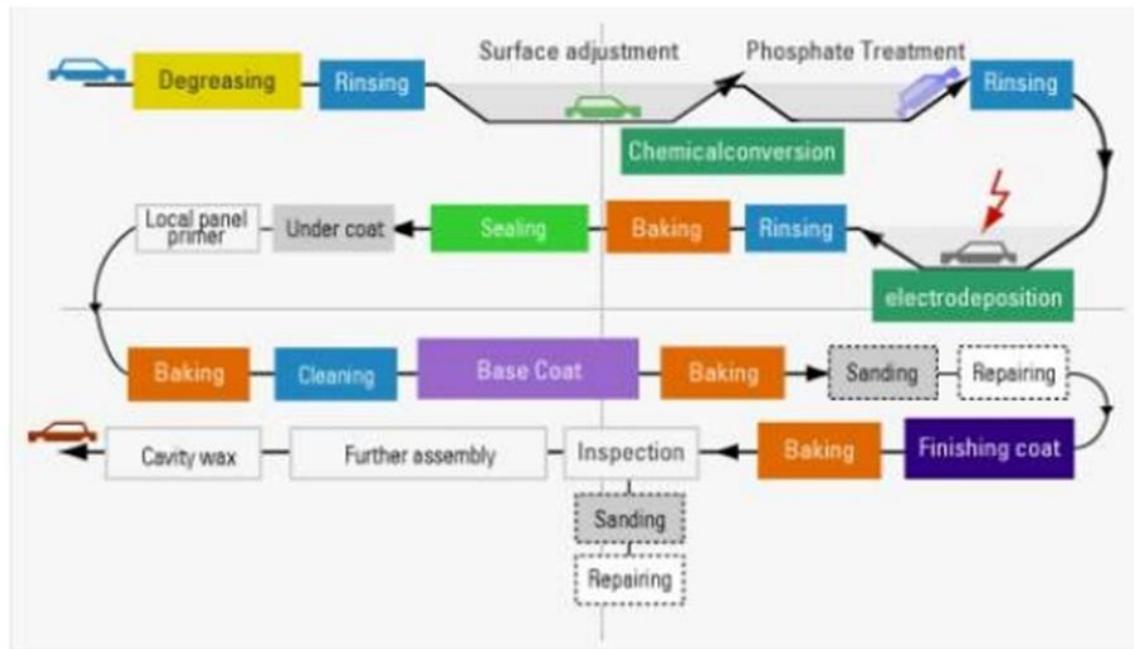
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Engineering – CAD

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Business

Applications in different areas of Business:

- *Business Communication*
- *Inventory Management*
- *Customer Relationship Management*
- *Payroll System*
- *Advertisement*
- *Data management*
- *Management Information System*
- *Human Resource Management*

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Advertising

Advertisements

• Computers play a vital role in advertising. Whether they are paper notices on boards or electronic billboards and online advertisements, every advert via any media is fully done with a computer.

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Conclusion

- It very important for UTME Subjects to include Computer Studies/Data Processing/ICT courses already available at the SSCE/GCE/NECO.

- Compute is now part of the definition of Literacy.

- In addition, there are many programs in our colleges that are Computing courses.

- Those that are not strictly Computing courses require computing knowledge.

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Thank you for Listening

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