

Bantu developers Course Syllabus

This syllabus is designed by Africa BloT Labs to facilitate the training of Developers during the 3 weeks Bootcamp on Bantu in Tanzania. It remains the property of Africa BloT Labs but can be used by external entities and is open to further development toward attaining cross-border perfection.

Instructions for using this Course Syllabus Template

- The syllabus is broken into discrete sections, which can be rearranged, or modified to best fit your course and teaching style.
- The syllabus also includes references to, and instructions for accessing, the various tools suitable for use by developers trainers, and trainees alike.
- Adjust descriptions of activities and outcomes to fit your course depending on the environment and audience.
 - Be sure to remove references to tools, activities, or outcomes that you do not plan to use in your course.

Endeavor to criticize and suggest improvements

You can suggest improvements backed up with resources and data on areas in this curriculum that can be enhanced to best suit the purpose. This can be attained by commenting on the document. Remember to cite records, research data, or sources.

However, do note that this method is a marathon training to enable knowledge acquisition in a short period of time. A more ideal scenario will at least double the expected time to conclude and adequately complete each module.

Course Syllabus

Part 1: Understanding and working with Bantu Blockchain

Instructor Information

- **Instructor:** (One for each University) *to be allocated*
- **Office:** Physical, United Republic of Tanzania
- **E-mail:** xbntraining@biotlabs.africa (yet to be created)

Course Description

- Bantu blockchain combines the best attributes of popular blockchain and Distributed Ledger Technologies (speed, security, reliability, affordability) and adds a more human element that economically empowers every participant on the network while lowering the entry barriers for participation.
- This course provides from basic to intermediary and then the expert level of understanding and working with/on the Bantu blockchain network.

Prerequisite/Corequisites

- Participants of this course must have successfully registered for the blockchain for professionals certification. The blockchain for professionals training modules successfully covers all aspects of blockchain basics and application areas.
- Participants of this course must have a core understanding of at least one of the following languages in order to be able to relate with platform SDKs: Javascript, Java, Go SDKs, Python, C# .Net, Ruby, Scala, and Qt/C++

Course Materials

- **Recommended Texts & Other Readings:**
 - Medium: <https://bantublockchain.medium.com>
 - https://bantufoundation.org/docs/Bantu_Product_Offering.pdf
 - Github : <https://github.com/bantublockchain>
 - Developer Laboratory: <https://laboratory.bantu.network>
 - Developer Documentation: <https://developers.docs.bantufoundation.org>
 - The slide presentation will also be made available during and after each session for further learning.
 - Presentation slide will also contain hyperlinks for other recommended online readings.

Important Links:

1. Official website: <https://bantufoundation.org>
2. BantuPay mobile wallets (iOS & Android): <https://bantupay.org>
3. Forum: <https://bantutalk.org>
4. Timbuktu P2P Market Place: <https://timbuktu.exchange>
5. Network Dashboard: <https://dashboard.bantu.network>
6. Network Explorer: <https://explorer.bantu.network>
7. Network Token Creator: <https://tokenize.bantu.network>

Course Requirements

- Internet connection (DSL, LAN, or cable connection desirable)
- Access to functional laptop
- General knowledge of software development and using command-line interface.
- Other tools and requirements to be provided by the instructor.

Online Course Structure

This is entirely an offline course made hybrid due to the recorded sessions archived for rewatching by participants and evaluation purposes. All course activities and resources will first be shared in the community/group and then archived on the website for reference during the sessions and post-Bootcamp. At designated times throughout the training days, we will participate in a blend of self-paced and group-paced activities using telegram and dedicated Whatsapp groups such as discussion forums, email, journaling, blogging, wikis, and web posting. All of the learning activities will be completed in your own time so long as they are completed by the dates and times shown in the course schedule.

Important Note: This syllabus, course assignments, and due dates are subject to change. The student participant must check our course online site and community for corrections, announcements, or updates to the syllabus. Any changes will be clearly noted in course announcements.

Community Access & Other Assistance

First point of contact will be designated admin officers in each university. For further clarification on these officers, see the google doc link for names and contact details. The second point of contact will be to reach out via email to pkdtraining@biotlabs.africa, response time is within 24 hours.

Part 2: Student Learning Outcomes & Objectives

Student Learning Outcomes

- Understanding Bantu basics, importance, feature comparison to other platforms, etc
- Creating your own assets, launching nodes, and working with existing APIs.
- Understanding the concept of account creation with payment options, securing web-based projects, on Bantu
- Creating decentralized applications on Bantu, and more during the learn and hack sessions.

Course Objectives

- Students will gain knowledge on a general overview of the Bantu network and applications
- Students will have hands-on experience using the Bantu blockchain for several applications such as
- Students will have first-hand experience coding smart contracts using ink!

You will meet the outcomes listed above through a combination of the following activities in this course:

- Attend all classes, rewatch recorded sessions and follow the instructions
- Complete all assessments and further read suggested materials.
- Participate in all class activities and group works

Part 3: Topic Outline/Schedule

Important Note: Refer to the course calendar for specific meeting dates and times. Activity and assignment details will be explained in detail within each week's corresponding learning module. If you have any questions, please contact your instructor.

Week 01: Introduction and Basics

Topic: Bantu Basics

What is Bantu The Bantu blockchain combines speed, security, and reliability and includes human elements of fairness and sharing to empower participants on the network while lowering the entry barriers for participation.

Course Outline:

1. What is Bantu and understanding Bantu Token (The native asset or token for the Bantu Network)
2. Exploring BantuPay Wallet – A non-custodial wallet for users to securely hold, transfer, swap, and trade digital assets.
3. Exploring the Bantu Dashboard
4. Exploring Bantu Laboratory basics as an intro for developers
5. Exploring other major features such as Bantu Node Viewer, Bantu Token Creator, Bantu Blockchain Explorer, and Bantu Decentralized Exchange

- ASSESSMENTS

Week 02-03 Learn and Hack

Learn and Hack method commences here. Each participant is already teamed and projects are allocated. At the end of every session, they will be able to properly query the knowledge base to develop their projects in related sectors such as Fintech, and Insuretech among other Defi projects.

Topic: Creating your project on Bantu and Requirements.

Description: Bantu has identified six customer profiles and these customers will be able to create Decentralized Applications (DApps) that will leverage the Bantu Network and tools to

create more value and efficiencies within their ecosystems. As a customer on the network utilizing its groundbreaking features, you are either Developers, Node operators, Token Creators, Financial institutions, Enterprise users, and Regular wallet users.

There is a wide variety of Bantu SDKs, which means you can interact with the network in your language of choice. The Bantu Development Foundation maintains the Javascript, Java, and Go SDKs; dedicated community developers maintain the rest. Other SDKs include Python, C# .Net, Ruby, Scala, Flutter, Qt/C++, etc. This section is designed to properly train and address the concern of each of the actors in the ecosystem.

Course Outline:

1. Working with the account creation and wallet basics
2. Issuing Assets
 - a. Asset control
 - b. Broadcast asset information.
3. Building Apps with Bantu as the Backend for your reliable blockchain software.
 - a. Setting up your project
 - b. Wallet creation and keys management
 - c. Payment setup and Issuing custom assets for the app and built wallet.
4. Running nodes
 - a. Prerequisites to running a node.
 - b. Installation and Configuration of your nodes (Different node types)
 - c. Command line options
 - d. Monitoring your nodes etc.
5. Working with the API Server
 - a. set up a test Bantu Core + Expansion node, Install and Run Quickstater Docker Image and personalize
 - b. Installing a pre-built horizon or building one from.
 - c. Monitoring your built or installed horizon
 - d. Running, reading logs and configurations.
6. The various Software SDKs (Language Specific)
 - a. Building on Bantu in a language of choice
7. Exploring possible use cases.
8. Assessment

Part 4: Assessment and Grading Policy

Assessments

All assessments are administered at the end of the week's training modules. The trainees are divided into groups and assessments are administered to each group. This is to facilitate collaboration and socialized learning providing avenues for group learning. No one is left behind.

Late Work Policy

Be sure to pay close attention to deadlines—there will be no make-up assessments or quizzes, or late work accepted without a serious and compelling reason and instructor approval.

Viewing Grades

Points received by each group for graded activities will be posted to the Grade Board visible to all. Your instructor will update the online grades each time a grading session has been completed. The grades may follow the below template as each instructor will declare his/her methods and offers encouragement to improve against the next modules and assessment.

Letter Grade	Percentage	Performance
A	90-100%	Excellent Work
B	80-89%	Good Work
C	70-79%	Average Work
D	60-69%	Poor Work
F	0-59%	Failing Work

Part 5: Course Policies

Participation

Students are expected to participate in all online and in-person activities as listed on the course calendar. Sessions are also recorded and documented online for rewatching in spare time. This is under no circumstances allowed to be watched during live class sessions.

Build Rapport

The Bootcamp and assessments are designed in such a way as to facilitate group and social learning ensuring no one is left behind. The online communities are also a tool to ensure the instructors and trainees build rapport even outside of the training hours. If however, you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let your instructor know as early as possible. As you will find, building rapport and effective relationships are key to becoming an effective professional. Make sure that you are proactive in informing your instructor when difficulties arise.

Complete Assessments

All assessments for this course will be submitted electronically unless otherwise instructed. Assignments must be submitted by the given deadline or special permission must be requested from the instructor *before the due date*. Extensions will not be given beyond the next assignment except under extreme circumstances.