

# African Internet Technology Initiative (AITI) 2004 Syllabus

(<http://web.mit.edu/mit-africa/www>)

MIT-AITI presents Ghana-2004 “Team G-Unit”

*Team Members:*

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*Samuel Gikandi, EECS, Senior*

*Lauri Kauppila, Aero/Astro, Junior*

*Tamara Stern, EECS, Junior*

*Ato Ulzen-Appiah, Civil Engineering and Management, Junior*

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**Course Dates:** June 14, 2004- July 23, 2004

**Time:** 9:00am sharp!!! -1:00pm, everyday

**General Topics:** Introduction to Java and Introduction to Entrepreneurship. The material is reinforced through lectures, labs, exams, a final project, and a business plan.

**Course Material:** MIT-AITI 2004 Lecture Notes Booklet, Entrepreneurship Lecture Notes Booklet, CD with the electronic format of the course materials, Core Java Volume I-Fundamentals by Cay S. Horstmann and Gary Cornell ( OCW students only).

*\*\*Certificates will be awarded to those students who successfully complete the course.\*\**

## **Purpose**

1. Teach computer programming using Java with practical work in computer laboratory
2. Teach entrepreneurship, with a USD \$330 competition at the end to be awarded to MIT-AITI teams in 3 countries.
3. Teach self-learning skills through the MIT Open CourseWare Initiative.  
-please see <http://ocw.mit.edu>

## **Curriculum**

The course will focus on two topics. The first is computer programming in Java, and the second is entrepreneurship. Concepts of the Java programming language over six weeks will be covered. This will culminate in a final project at the end of the six weeks to demonstrate each student’s knowledge of the material presented in the course.

The entrepreneurship portion of the AITI course will cover topics ranging from building business in Africa to e-commerce. It consists of a series of lectures and successful business women and men from the local community. The entrepreneurship series will culminate with a business plan competition with a reward of \$330.

### **Lectures and Labs**

Java lectures will be conducted daily in the Chemistry Department Ghana-China Computer Lab starting at 9 a.m. Lab sessions in Java and JSP will be held daily after the lectures until 1 p.m. Lab due dates will be announced when the labs are assigned. The MIT-AITI team members will be available to answer questions during these sessions. The entrepreneurship lecture series will be conducted on Tuesdays and Thursdays from 2:00-3:00 p.m.

### **Lab Collaboration Policy**

Students are encouraged to work together and help each other on lab assignments. However there can be no cheating or copying of code! If any student is caught cheating on a lab they immediately receive a grade of failure, and disciplinary action will follow.

### **Grading Policy**

- 40% Labs
- 20% Final Project
- 40% Exams: There will be 2 three hour exams. We will not tolerate cheating. If anyone is caught cheating, they will be given a fail, and disciplinary action will follow.

## Course Schedule

June 14 <sup>th</sup> – June 18 <sup>th</sup>	Monday	Tuesday	Wednesday	Thursday	Friday
9.00-12.00	L0, E0, L1	L2, L3	L4	L5	L6
11.00-1.00	B0	B1	B2	B3	B4
2.00-4.00		EP0, EP1		EP2	

June 21 <sup>st</sup> - June 25 <sup>th</sup>	Monday	Tuesday	Wednesday	Thursday	Friday
9.00-11.00	L7	L8	L9	L10, E1	
11.00-1.00	B5	B6	B7	B8	Exam 1
2.00-4.00		EP3		EP4	FP

June 28 <sup>th</sup> – July 2 <sup>nd</sup>	Monday	Tuesday	Wednesday	Thursday	Friday
9.00-12.00	L11	L12	L13	Republic Day Holiday No Class!	
11.00-1.00	B9	B10	B11		
2.00-4.00		EP5			

July 5 <sup>th</sup> – July 9 <sup>th</sup>	Monday	Tuesday	Wednesday	Thursday	Friday
9.00-11.00	L14	L15	L16	L17	L18
11.00-1.00	B12	B13	B14	B15	B16
1.00-4.00		EP6		EP7	FP (proposal)

July 12 <sup>th</sup> – July 16 <sup>th</sup>	Monday	Tuesday	Wednesday	Thursday	Friday
9.00-12.00	L19	JSP0, JSP1	JSP2	Study/Finish Java Labs	Exam2
11.00-1.00	B17	JSPB0, JSPB1	JSPB2		FP
1.00-4.00		EP8		EP9	

July 19 <sup>th</sup> – July 23 <sup>rd</sup>	Monday	Tuesday	Wednesday	Thursday	Friday
9.00-12.00	JSP3	JSP4	JSP5, FP	FP	FP, E3
11.00-1.00	JSPB3	JSPB4	JSPB5	FP	FP
1.00-4.00		EP10		EP12	

-Need to add 2 more entrepreneurship lectures EP11 and EP12

### Key:

Lxx - Java Lecture    Bxx – Java Lab    Exx – Evaluation Form

JSPxx – JSP Lecture    JSPBxx – JSP Lab.

EPxx – Entrepreneurship Lecture    Qxx - Quiz

## Course Topics

<p><b>Java Lectures</b>  L0 - Intro to AITI  L1 - Intro to Java  L2 - Variables and Data Types  L3 – Operators  L4 - Control Structures  L5 – Arrays  L6 – Methods  L7 – Classes and Objects 1  L8 - Classes and Objects 2  L9 - Lists and Iterators  L10 - Static and Final  L11 - Package, Scope, and Access  L12 – Inheritance  L13 - Abstract Classes and Interfaces  L14 - Exceptions  L15 - IO and Parsing  L16 - Intro to Swing  L17 - Swing Event Model  L18 - Collections 1  L19 - Collections 2</p>	<p><b>Java Labs</b>  B0 - Hello World  B1 - Variables and Operators  B2 - Control Structures  B3 - Gradebook 1  B4 - Gradebook 2  B5 - GradebookOO 1  B6 - GradebookOO 2  B7 - GradebookOO 3  B8 - Racecar 1  B9 - Racecar 2  B10 - Students 1  B11 - Students 2  B12 - MyStore 1  B13 - MyStore 2  B14 – Calculator 1 (during lecture)  B15 – Calculator 2 (during lecture)  B16 - Card Game 1  B17 - Card Game 2</p>	<p><b>JSP Lectures</b>  JSP0 - HTML  JSP1 - JSP Basics  JSP2 - Get and Post Requests  JSP3 - Including and Forwarding  JSP4 - Sessions and Cookies  JSP5 - Separating Presentation from Logic</p> <p><b>JSP Labs</b>  JSPB0 - Starting Your Web Application  JSPB1 - Making Your Pages Dynamic  JSPB2 - Interacting with the User  JSPB3 - Making Your Code Modular  JSPB4 - Remembering the User</p>
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### About AITI

AITI is an organization in founded the year 2000 and run entirely by MIT students. It focuses on bringing information technology to Africa by working with schools and universities in Ghana, Kenya and Ethiopia. For more information please see <http://web.mit.edu/mit-africa/www>.