Course Catalog by Internet Technology University (ITU)

Distant Learning | 720-299-4701 | http://ITUniversity.us

Approved and Regulated by the Colorado Department of Higher Education, Private Occupational School Board, December 2015, Volume 1

Contents

Introduction

Join ITU in personalized and guided climb to the Internet Technology Summit with people who know current trends and influence the future:

http://ITofTheFuture.com | http://FixingEducation.us | http://www.dataversity.net/software-semantic-evolution-part-1/

Start and advance your career. Learn hard-to-find skills that are in high demand by industry [1]. Get a profession and get a stable and exciting job in the Internet Technology field.

IT job market is very dynamic. Simpler jobs disappear or get outsourced. New technologies appear on the horizon and they are not taught in the colleges and universities yet.

What can the IT industry as a whole do to stay solvent in the new era of global outsourcing?

Its survival does not lie in government regulations that can limit global collaborative engineering - possibly the greatest technological achievement of the modern world, which helps people from different countries understand each other and work on common goals.

IT will survive and prosper because of its ability to innovate, to quickly learn and change directions, and maybe even to evolve from Information Technology into Distributed Knowledge Marketplace [2, 3, and 4]. We have no choice but to be pro-active, learn to stay current, and sometimes run ahead of the game.

Our curriculum focuses on the skills that are becoming extremely valuable today, and which will certainly be in high demand tomorrow.

Why Internet Technology University?

We are not only teaching the skills, which are in high demand by industry, we help you becoming a professional, getting a stable and exciting job. The courses are designed for the latest trends of Web and Mobile Internet applications with Big Data and Knowledge Technologies. This field is constantly growing, looking for new talents programming robots, drones, and games. The book "IT of the future" [3] describes the field for technical and business users and serves as one of the publications [4] supporting the courses.

In a college, many separate subjects are perfectly disconnected. An average college graduate seems to know many things but can do very little.

We developed an integral approach and effective methods of using technology in education, tuning in to individual skills and performances [5].

These methods, results of more than 30 year consulting and training experience, are shared in the article [6]: https://www.linkedin.com/pulse/20140618203640-19801198-fixing-society

The most important factor helping students to get a job is our curriculum.

It is hard to compete for a job with seasoned developers. It is much easier to enter with high-demand skills. We are coming to the new turn in software development, similar to the shift from structural to object-oriented programming. New skills, which we teach at http://ITUniversity.us, are in the high demand today and this demand will grow tomorrow.

Check our article on the current shifts in software development published by Dataversity.net:

http://www.dataversity.net/software-semantic-evolution-and-the-next-step-part-1/

Another important factor is our method of delivery: online study with personalized guidance and support by an expert-instructor. This is not only helping to gain new skills, this is about getting a stable and exciting profession of an Internet Application Developer.

Names of the Owners and Instructors

The Owner of the School and Instructor: Yefim (Jeff) Zhuk
About the instructor: Expert-consultant in Enterprise Architecture, SOA and Knowledge Engineering; Certified by Sun Microsystems as Java Architect and Technical Instructor on J2EE, Java Card and more subjects; Worked for Boeing/Jeppesen, Sallie Mae, Intelligent Software Solutions; shared best practices at Java One, Wireless One, Boeing, and Semantic Tech conferences; developed and practice innovative educational methods; conducts consulting and training in new Internet Technologies. Author of books, patents and publications on Knowledge-Driven Architecture, Adaptive Mobile Robot Systems, Collaborative Security and Decision Making Services and others. See http://ITofTheFuture.com | http://javaschool.com/about/publications.html
Awards: Teacher Excellence by University of Phoenix; Hi Five - the best instructor of the year - by Sun Microsystems; Boeing Inventor of the year (2007, 2008).

Feedback: http://javaschool.com/about/references.html

School Calendar

The school is online web-based distant education, it does not close for holidays

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Programs/Courses Offered

Certificate Programs

Program A: JAVA-BASED WEB APPLICATION DEVELOPMENT – 300 LESSONS (THEORY AND PRACTICE)
AWARDED THE WEB APPLICATION DEVELOPER CERTIFICATE UPON SUCCESSFUL GRADUATION
Cost of the complete program: $6,000.00

Occupational Objective: The graduate should be able to acquire a web developer position
No technical background is required.

PROGRAM B: INTERNET APPLICATION DEVELOPMENT – 197 LESSONS (FOUR COURSES WITH THEORY AND PRACTICE)
AWARDED THE INTERNET APPS DEVELOPER CERTIFICATE UPON SUCCESSFUL GRADUATION
COST OF THE COMPLETE PROGRAM: $3,940.00
Pre-requisite: completion of the program A, JAVA-BASED WEB APPLICATION DEVELOPMENT

Occupational Objective: The graduate should be able to acquire a position for developing integrated web and mobile intelligent applications, become a consultant or a start-up entrepreneur.

The List of Courses in the Program B, Internet Application Development (Pre-requisite: program A)

1. Mobile Applications and Cloud Technologies (Length: 50 lessons; Cost: $1000)
Occupational Objective: The graduate should be able to acquire a position for developing mobile applications, become a consultant or a start-up entrepreneur.

2. Big Data and Business Intelligence (Length: 60 lessons; Cost: $1200)
Occupational Objective: The graduate should be able to acquire a position for developing Big Data intelligent applications, become a consultant or a start-up entrepreneur.

3. Artificial Intelligence, Knowledge Engineering and Semantic Technologies (Length: 47 lessons; Cost: $940)

Occupational Objective: The graduate should be able to acquire a position for developing Semantic applications, become a consultant or a start-up entrepreneur.

4. SOA, Microservices, RAML, Data Sense By Mule Soft and Semantic Integration (Length: 40 lessons; Cost: $800)

Occupational Objective: The graduate should be able to acquire a position for developing applications in Service-Oriented Architecture, become a consultant or a start-up entrepreneur.

The programs have been developed by Internet Technology University in partnership with its consulting branch, Internet Technology Systems.

Java-based Web Application Development Program Details (Length: 300 lessons, Cost: $6,000)

Web Application Developer Certificate
upon successful accomplishing the program

Occupational Objective: The graduate should be able to acquire a web developer position
No technical background is required.

Core: Part1 - Java Introduction; Part2 – Java and Databases

Web: Part3 - Threads and Networks; Part4 – Web apps development

Testing and Certification Included

Instructor: Jeff Zhuk

Description of the Java-Based Web Application Development Program:
The program starts with fundamentals of Software engineering, including
- Critical Thinking and Software Evolution
- Thinking and Programming in Java

- Processing Data with SQL and Relational Databases: Oracle and MS SQL Server
- Hibernate and Data Services Frameworks Introduction

Then, the course reviews fundamentals of Software Architecture and expands into Java-based Web Application Frameworks (AngularJS, Spring, and Data Services).

In contrast to a college curriculum, where many subjects are perfectly disconnected, this course connects all training subjects and re-enforces learning with tightly integrated assignments, testing and growing in complexity projects.
The training course is based on integral approach and highly effective methods of using technology in education, tuning in to individual skills and performances. These methods, shared at http://FixingEducation.us and also in the LinkedIn article (https://www.linkedin.com/pulse/changing-formula-education-jeff-yefim-zhuk) make the training successful and cost-efficient. **No IT background is required.** But if a student has one, the learning curve will be shorter.

The main study sections:

- 1. Java Introduction
  - 1.1.1. Software Evolution
    - The first numeric system and the first computer
    - From chaos and spaghetti coding to layered architecture
    - Software evolution to OOP and Services and further to Knowledge-driven architecture
    - Critical Thinking and Design Patterns
  - 1.1.2. Java Technology
    - Java Virtual Machine and .NET frameworks
    - Java Security
    - Java in Mobile devices and Internet of Things (IoT)
  - 1.2.1. JDK and Eclipse
    - Install JDK
    - Setup Environment Variables
    - Familiarity with Windows folders
    - Install and Run Eclipse
  - 1.2.2. The First Project and the First class
    - Creating the first Java project
    - Creating the first Java class
    - More Java coding
  - 1.2.3 Java Class Structure
    - Data and Methods
    - First exposure to Object-Oriented approach to programming
    - The purpose and examples of the main method
  - 1.2.4. Java Style and Terms
    - Planning before coding
    - JavaDoc to document software goals in source headers
    - Java terminology
    - Java type casting

- 1.2.5. OOP in Java
  - Structured and Functional Programming versus Object-Oriented Programming
  - Encapsulation, Inheritance and Polymorphism
  - Code samples
- 1.2.6. Array and For loop utilities
  - Java Array
  - Handling arrays in for-loops
  - Basic algorithms with arrays
  - More code samples
- 1.2.7. Interface and Abstract Class
  - Java Interfaces
  - Java Abstract Classes
  - Common and different features
  - Polymorphism examples
  - More code samples

- 1.3. SDLC
  - Basic Development Roles and the Role of the Software Architect
  - Basic Steps of the Development Process with Object-Oriented Approach
  - Start from User Requirements and Transit to Test Use Cases
  - Use UML to capture and communicate analysis results
  - Use Cases and Class Diagrams
  - Sequence, Action, and Collaboration Diagrams
  - Architecture review and iteration of object analysis
  - Employ full power of Design Patterns
  - Focus on service and data reuse
  - Design strategy, tactics, and style
  - OOP and Its Limits
  - Intro to Aspect-Oriented Programming
  - Intro to Knowledge-Driven Architecture

- 1.4. Input-Output and Exceptions
  - Java approach to reading and writing files
  - Developing IO Utilities
  - Java Exceptions
  - Try-Catch versus Throw Exceptions

- 1.5. Text Processing
  - Text processing with the methods of Java String class
  - Character class and methods
  - Formatting output of text expressions
  - Parsing text with patterns

- 1.6. Java Introduction Project
- Test - Java Introduction

- 2. Java and Databases
  - Data Storage methods and platforms
  - Common standard for RDBMS
  - RDBMS basics
- 2.1. SQL
  - SQL Categories
  - DDM
  - DDL
  - DCL
  - Working with data with SQL and RDBMS
- 2.2. JDBC
  - JDBC Concepts and Implementation
  - JDBC Drivers
  - Five steps managing data with JDBC
  - Statement and Prepared Statement
  - Result Set processing in Java
  - Data Types in RDBMS and Data Type Mapping to JDBC
- 2.3. Oracle Install and work
  - Oracle Express Installation
  - Configuration and Connection URL
  - Creating tables and rows
  - Managing data with Oracle Application Express
- 2.4. MS SQL Server Install and work
  - MS SQL Server Express Installation (together with MS Management Studio)
  - Managing data with SQL Server Management Studio
- 2.5. Data Handling Frameworks
  - Creating DB access utilities
  - Spring and Hibernate data framework introduction
  - Using Data Service approach to separate SQL from Java code
  - More JDBC coding with Data Service utilities
- 2.6. JDBC Project
- Test - Java and Databases

- 3. Threads and Network
- 3.1. Threads
  - Java multithreading environment
  - Data access and data corruption with multiple threads
  - Thread-safe methods
  - Creating and handling threads in graphics and games

- 3.2. Http access
  - TCP-IP Protocol
  - HTTP headers
  - URL class
  - Using basic IO methods
  - Reading Web Pages Utility
- 3.3. Socket Server and Client classes
  - TCP-IP and UDP communications
  - Java Sockets
  - Server Socket class
  - Client Socket (Socket) class
  - Creating socket utilities with Java Threads
- 3.4. Sockets Project
- Test - Threads and Network

- 4. Web Apps Frameworks
  - 4.1. Web Application Architecture
    - Client and server side programming
  - 4.2. Web Front End
    - HTML basics
    - CSS
    - Java Script basics
    - jQuery
    - AngularJS
    - REACT
  - 4.3. JSP and Servlets
    - Java Servlets
    - Java Server Pages
    - JSP tags
  - 4.4. Spring and Data Service Web Framework
    - Creating a project with Spring MVC Framework
    - Creating a project with Data Service MVC Framework
  - 4.5. Web Services
    - 4.4.1. SOAP Web Services
    - 4.4.2. RESTful Web Services
  - 4.6. Web Services Security
  - 4.6. Introduction to Big Data and Mobile Applications
  - 4.7. Test JSP and Servlets
  - 4.8. Web Apps Projects
- Certification Project
- Certification Test

Details on the courses included in the Program B, Internet Application Development:

(Enrollment to program B requires completion of the program A, Web Application Development)

1. **MOBILE APPLICATIONS AND CLOUD TECHNOLOGIES (Length: 50 lessons; Cost: $1000)**
   Occupational Objective: The graduate should be able to acquire a position for developing mobile applications, become a consultant or a start-up entrepreneur.

The main study sections

- Introduction to Mobile Computing
  - iOS
  - Android OS
- Building the first Mobile Android Application
  - Download and Install Android Studio
  - Development Steps
  - Running the first project
- Enhance the project with web actions
- Cloud Computing Introduction
- Amazon Web Services
- Creating AWS instance with web presence
- Combining Mobile and Cloud Computing

2. **BIG DATA AND BUSINESS INTELLIGENCE (Length: 60 lessons; Cost: $1200)**
   Occupational Objective: The graduate should be able to acquire a position for developing Big Data intelligent applications, become a consultant or a start-up entrepreneur.

THE MAIN STUDY SECTIONS

- Information Management: the most important task
  - Corporate “Know-how” and tribal knowledge
- Big Data Concepts
  - Big Table by Google
  - Map-Reduce methodology by Google
  - Hadoop
- Big Data No SQL databases
  - OWLIM by Open Text Company
  - AllegroGraph
  - Neo4j
  - Fluid Operations
  - Cassandra
  - MongoDB
  - RavenDB
- Real-time/Streaming versus Batch Processing
- MongoDB with Spark streaming
- Cassandra with Spark streaming

3. Artificial Intelligence: Knowledge Engineering and Semantic Technologies (Length: 47 lessons; Cost: $940)

Occupational Objective: The graduate should be able to acquire a position for developing Artificial Intelligence, Knowledge Engineering and Semantic Technology applications, become a consultant or a start-up entrepreneur.

THE MAIN STUDY SECTIONS

- Artificial Intelligence and Semantic terms
  - The difference between Ontology and Taxonomy
- Conversational Semantic Decision Support (CSDS)
  - Formalization of Business Rules
  - Service integration and data mapping
  - Enabling best practices in development
- Semantically rich service environment
  - Semantic Logging
  - Semantic Listener
- Collaborative Security and Decision Making in SOA environment
- Adaptive Robot System learning on-the-fly
- Cognitive Computer Foundations
- IBM Watson Cognitive Computing platform for business
- Corporate Knowledge Warehouse

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4. SOA, MICROSERVICES, RAML, DATA SENSE BY MULE SOFT AND SEMANTIC INTEGRATION (Length: 40 lessons; Cost: $800)

Occupational Objective: The graduate should be able to acquire a position for developing applications in Service-Oriented Architecture, become a consultant or a start-up entrepreneur.

THE MAIN STUDY SECTIONS

- From good old times of programming “all-in-one” to architecture layers
- From application monsters to Service-oriented architecture (SOA)
- Service types and layers
- Microservices and API-led connectivity by MuleSoft
- RESTful API Modeling Language (RAML)
- DataSense by MuleSoft
- The next step: a semantic integration layer
  - Semantic Logging
  - Semantic Listener
- Business Architecture Sandbox for Enterprise (BASE)

School Policies

Entrance Requirements

The school does not discriminate based on age, race, sex, religion, ethnic origin, or disability. All students have to be at least 16 years of age. Students have to be able to read and write in English.

Class Schedule:

A student chooses her/his own pace of study while guided by an instructor.

Placement Assistance:

ITU offers assistance with resume, job search and interview preparation.

Enrollment

Prospective students may enroll anytime online. Enrollment process includes registration online, study the first section and meeting with the instructor, all free of charge till a student wants to pay to access the next section of study. At this point a student signs and emails the Enrollment Agreement to the instructor. Late enrollments are accepted one week into the course, depending on length of the course.

Progress Policy

At Internet Technology University a student can move to the next set of lessons only after completion 100% of the previous one. This is embedded in the program. Only when all assignments of the section are completed, a student can get access to the next study section. Each section includes a set of tests and projects. At each point in time any student can see her or his progress report generated automatically. Unsatisfactory progress, when a student cannot finish all assignments, will not allow to move to the next section. Besides the assignments, there are tests (Question-and-Answer sections) in each unit of study. Each test is graded automatically. Receiving less than 35% in QnA sections is considered unsatisfactory.

Grading System

90 – 100 = A Excellent

75 – 89 = B Above Average

50 – 74 = C Average

35 – 49 = D Below Average

Under 35 = U Unsatisfactory

At each point in time any student can see her or his progress report generated automatically as well as feedback from the instructor.

Conduct Policy

All students are expected to act maturely and are required to respect other students and faculty members in online communications and teamwork. Any violation of school policies may result in permanent dismissal from school.

Dismissal

Any student may be dismissed for violations of rules and regulations of the school, as set forth in school publications. A student also may be withdrawn from classes if he or she does not prepare sufficiently, neglects assignments, or makes unsatisfactory progress. The director, after consultation with all parties involved, makes the final decision.

The Director of Education may temporarily suspend students whose conduct is disruptive or unacceptable to the academic setting. After appropriate counseling, students who demonstrate a genuine desire to learn and conform to school standards of conduct, may be allowed to resume attendance. The director will review each case and decide upon re-admittance.

Postponement of Start Date

A student can start online guided study at any time according to an agreement with the instructor. Postponement of a starting date, whether at the request of the school or the student, requires a written agreement signed by the student and the school. The agreement must set forth:

a. whether the postponement is for the convenience of the school or the student; and,

b. the deadline for the new start date, beyond which the start date will not be postponed

If the course is not commenced, or the student fails to attend by the new start date set forth in the agreement, the student will be entitled to an appropriate refund of prepaid tuition and fees within 30 days of the deadline in accordance with the school's refund policy and all applicable laws and Rules concerning the Private Occupational Education Act of 1981.

Attendance Policy

A student can study at her or his own pace under instructor's supervision. Although there are no special attendance requirements to online study, a student is recommended to complete at least one lesson during at least one week. If a student consistently late on completion online assignments, this might be reflected in her or his grade and will be a subject of a discussion between the instructor and a student.

Online Facilities

The online facilities are available at http://ITofTheFuture.com/BASE/Lookup. Computer programs, charts, diagrams and videos to enhance classroom activities are available.

Educational Services

All courses are available as Distance Education, online personalized guided study.

Previous Credits

Credits from another institution will be evaluated on a case-by-case basis. ITU does not guarantee transferability of our credits to another institution unless there is a written agreement with another institution.

Student Grievance Procedure

The school's internal grievance/complaint procedures include several options for a student.

- A student can directly email to a school director and instructor at dean@ituniversity.us
- A student can complain or raise an issue during a personal meeting with the instructor.
- The school director will respond to a student and will work on resolving the issue during a week or two.

Student Complaints

Attempting to resolve any issue with the School first is strongly encouraged. Student Complaints may be brought to the attention of the Division of Private Occupational Schools online at http://highered.colorado.gov/dpos , 303-862-3001. There is a two-year statute of limitations for the Division to take action on a student complaint (from student's last day of attendance).

Refund Policy

ITU does not take any money upfront.
Quite opposite, we allow any student to take several lessons free under instructor's supervision.
After choosing to continue education at ITU, a student only pays on-the-go for the next set of lessons.

Students not accepted to the school are entitled to all moneys paid. Students who cancel this contract by notifying the school within three (3) business days are entitled to a full refund of all tuition and fees paid. Students, who withdraw after three (3) business days, but before commencement of classes, are entitled to a full refund of all tuition and fees paid except the maximum cancellation charge of $150.00 or 25% of the contract price, whichever is less. In the case of students withdrawing after commencement of classes, the school will retain a cancellation charge plus a percentage of tuition and fees, which is based on the percentage of **lessons with completed assignments**, as described in the table below. The refund is based on the official date of termination or withdrawal.

Refund Table

Student is entitled to upon withdrawal/termination	**Refund**
Within first 10% of program	90% less cancellation charge
After 10% but within first 25% of program	75% less cancellation charge
After 25% but within first 50% of program	50% less cancellation charge
After 50% but within first 75% of program	25% less cancellation charge

After 75% [if paid in full, cancellation charge is not applicable]	NO Refund

1. The student may cancel this contract at any time prior to midnight of the third business day after signing this contract.
2. All refunds will be made within 30 days from the date of termination. The official date of termination or withdrawal of a student shall be determined in the following manner:
    a. The date on which the school receives written notice of the student's intention to discontinue the training program; or
    b. The date on which the student violates published school policy, which provides for termination.
    c. Should a student fail to return from an excused leave of absence, the effective date of termination for a student on an extended leave of absence or a leave of absence is the earlier of the date the school determines the student is not returning or the day following the expected return date.
3. The student will receive a full refund of tuition and fees paid if the school discontinues a Program/Stand Alone course within a period of time a student could have reasonably completed it, except that this provision shall not apply in the event the school ceases operation.
4. The policy for granting credit for previous training shall not impact the refund policy.