

RGUKT, Basar

Date: 19.01.2017

NOTICE regarding IBM Career Education Program (CEP) at RGUKT **for E3, CSE & ECE Students**

It is hereby informed to all the students of E3 that the IBM would like to conduct **Career Education Program (CEP)** at our campus for which the following two courses are on offer.

1. Enterprise Application Development and Deployment on Cloud using IBM BlueMix

The package includes:

1. IBM trainers providing entire coursework, instruction and training with material.
2. Hands - on practicals.
3. Testing and certification by IBM.
4. Minor and Major projects (industry standard and live) by IBM trainers at RGUKT itself.

The total cost is expected to be around Rs.20,000 (per student) for the entire package. Interested students must immediately contact their HOD and register. Course outcome and details are as follows.

Note: The above said course has the consensus of both CSE & ECE HoDs, if good no.of students register for the above said course then they will be floated as electives in E4SEM1 & E4SEM2 as a part of Academics.

Sd/-
T & P Cell



Course Name	Enterprise Application Development and Deployment for Cloud Environment
Course Code	RMSJSPPIN
Course Duration	50 Hours
About the Technology	<p>Conversations with leaders around the world revealed a new primary challenge-complexity. How can CEOs connect with customers in imaginative ways and design their operations for speed and flexibility?</p> <p>Cloud computing - the deployment of network-based applications in a highly flexible, shared IT environment - is becoming a key enabler of better service delivery and greater value in today's business landscape. It offers a number of major advantages over more traditional application deployment models, including the more efficient use of IT and development resources, easier and less costly maintenance, and the ability to deliver consistent services through a variety of channels. Cloud computing also makes it easier for businesses to partner and bring enhanced composite service offerings to market very quickly.</p> <p>But developing cloud-based applications requires new approaches that address the unique requirements of software-as-a-service. IBM Application Development Services for Cloud delivers on the promise of cloud application development by building custom cloud applications from implementation planning to design, development and deployment.</p>
About the course	<p>This course is designed to introduce Java developers to the development and testing of serverside applications based on Java EE component model, using IBM WebSphere and IBM Rational tools.</p> <p><i>Upon completion of the course, students will be able to:</i></p> <ul style="list-style-type: none">○ Describe Java EE component model and its use in building server-side applications○ Develop, debug, and test server-side applications using IBM Rational Application○ Developer and IBM WebSphere Application Server○ Develop and test servlets using IBM WebSphere and IBM Rational tools○ Develop and test JSP pages using IBM WebSphere and IBM Rational tools○ Learn how to use JavaBeans, JSPs and servlets in accordance with the○ Model/View/Controller (MVC) programming model○ Develop, test, and use JSP custom tags○ Describe deployment and run-time issues of Java EE-based applications including security, scalability, and work load management in the context of WebSphere Application Server○ Assemble and perform integration testing of Java EE-based applications using○ WebSphere Application Server○ Identify best practices for designing and building Web applications such as application frameworks and design patterns



	<ul style="list-style-type: none"> ○ Define cloud computing, Identify the key characteristics of cloud computing ○ Describe the service delivery models in cloud computing, and list the various cloud deployment scenarios ○ Learn how to provision resources on the Cloud ○ Deploying a Web application on the Cloud.
Audience	<p>This instructor-led, classroom course is intended for the following audience:</p> <ul style="list-style-type: none"> ○ Java developers <p>Students of</p> <ul style="list-style-type: none"> – Engineering (CS, IT)- 3rd / 4th Year – MCA – 1st / 2nd Year – BSc, BA -2nd / 3rd Year
Pre-Requisites	<p>To benefit from this course, students should have the following skills or experience:</p> <ul style="list-style-type: none"> ○ Develop, test, and deploy Java applications ○ Understand server-side Java applications <p>Pre-requisites courses:</p> <p>RPROOPJFN - IBM CE Object -Oriented Programming using Java</p>
Contents	<p><i>This course covers the following topics:</i></p> <p>Module 1: Mastering Servlet and JSP Development with Rational Application Developer v7-5</p> <ul style="list-style-type: none"> ○ Introduction to Java EE Web Component ○ Overview of Servlets ○ Java EE Perspective of the Rational Application Developer ○ Java EE Container Services Overview ○ Servlet API ○ Library Case Study ○ Overview of JavaServer Pages ○ JavaServer Pages Specification and Syntax ○ Page Designer in Rational Application Developer ○ Debugging Web Applications ○ Web Archive Deployment Descriptor ○ Session State Storage Issues ○ Cookie API ○ HttpSession: Management of Application Data ○ URL Rewriting ○ Best Practices for Session Management ○ JavaBeans and the MVC Pattern ○ JavaServer Pages with JavaBeans ○ JSP Expression Language ○ JSP Custom Tags



	<ul style="list-style-type: none">○ JSP Tag Files○ Servlet Filtering○ Servlet Listeners○ Best Practices for Server-Side Application Development○ Java EE Packaging and Deployment○ Installing an application in WebSphere Application Server V7.0○ Web Application Security <p>Module 2: Deployment of Enterprise Application on Cloud Platform</p> <ul style="list-style-type: none">○ Whats new in RAD 8.0○ Introduction to Cloud Computing○ Cloud views in the RAD 8.0 workbench○ Requesting resources on the cloud○ Installing the cloud tooling○ Creating a WebSphere Application Server on the cloud○ Configuring and deploying application on the cloud
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Applicable IBM Certification*	IBM Certified Application Developer - Rational Application Developer v7 - Test 000-136: Rational Application Developer v7
Follow on Courses	<ul style="list-style-type: none">- Rational Testing - Fundamental- IBM CE Enterprise Application Project

* - Prometric Certification voucher are available on additional and discounted cost



Course Name IBM CE Project - Enterprise Application Development for Cloud Deployment

Course Code PROJSCLOIN

Course Duration 40+ 80 Hours

About the Technology Lack of project exposure is one of the biggest challenges faced by IT companies while recruiting new hires like you. To bridge this gap, the IBM Career Education Program provides an opportunity in Experiential Learning to work on projects based on real-world problems, rather than industry simulations. Make the right beginning with a project that requires practical knowledge to back-up the theories you have mastered.

About the course The IBM Career Education – Enterprise Application Project enables the student to roll out through all the phases of application development from Requirements to Deployment (to the cloud environment). These projects mainly focus on SDLC process and usage various tools for SDLC phases. Students get an opportunity to apply a chosen application development methodology and understand the workflow in each phase of SDLC.

Benefits for participants:

On completion of project students will learn:

- Requirements and its types
- Choosing amongst various process models / methodology that suit the requirements.
- Process of mapping requirements to analysis & design, development, testing
- Creating Analysis and design of an application using UML diagrams like Use Case, Class, Sequence, Activity-etc
- Accommodating non functional requirements while analyzing, designing, developing an application
- Creating Test cases for an application
- Establishing Traceability from Requirements to Test Cases
- Applying Object Oriented Programming concepts like re-usability, encapsulation, polymorphism, inheritance -etc in the development of an application.
- Concepts of Configuration Management like Version, Build – etc
- Manual Testing of an application.
- Best Practices of mentoring Engineering students on Projects

Artifacts from IBM:

- Abstract / Synopsis – giving synopsis of functional, non-functional requirements, tools & technologies to be used, higher level project description
- SRS /Usecase documents – giving scope, assumptions, need and objectives of the application. Higher level requirements of the application in the form of System Context Diagram, system level Use case Diagram, description of use cases. Sample database schema and Test cases are provided which need to be elaborated by students as required for the application under study.
- 90 days free trail access to IBM SmartCloud

End deliverables from students:

- Object Oriented Analysis & Design using UML.
- UML diagrams like Use Case, Class, Sequence, Activity, Object diagram using

- Rational RSA
- Database design
- Reach and user friendly User Interfaces
- Development of application using WAS toolkit
- Manual Testing of Application developed to show that all the specified requirements – Functional & Non Functional are met.
- Generation of various analytical reports as mentioned in the requirements.
- Running Deployable application.

Targeted Audience

Students of

- Engineering (CS, IT) – 4th Year
- MCA –2nd Year
- BSc, BA -3rd Year

Pre-requisites

To benefit from this course, students must:

- **And have knowledge of**

- Basic problem determination skills
- Software Development Life Cycle and different SDLC process models
- Basic network and operating system security concepts
- UML diagramming techniques like Class diagram, Use Case Diagram, Sequence Diagram, Activity diagram-etc
- Fundamentals of DBMS and database designing
- Basics of testing like types and levels of Testing, writing test cases
- Object Oriented Programming concepts
- Basic web application architecture and deployment
- Hands on experience on any Object Oriented Programming language like C++, Java, .Net -etc

Pre-requisites courses:

- IBM CE – Introduction to Object -Oriented Programming using Java
- IBM CE - Enterprise Applications Development using Rational Application Developer
- IBM CE - Learning SQL and DB Programming with DB2 (LUW)

Contents

IBM Career Education **Major Projects** include

- Bridge course on
 - Best Practices of programming including concepts of RUP
 - Introduction to DB2
 - Object Orient Modeling using RSA
 - Web Application Development using RAD
 - Deployment using WAS 8.x

Key features:

- Choose from a variety of Real World minor projects *based on algorithmic requirements of current day enterprise programming challenges faced by customers, who have addressed the challenges using IBM Technologies*
- Learn & work with tools, methodologies and best practices used by the enterprises today



- Constant monitoring and mentoring by experts
- *Project evaluation, and certification by IBM* for each candidate who completes the project

These projects mainly focus on building the students' skills on appreciating and understanding the methodology to developing effective algorithmic codes and develop interactive user experience, which is the key aspect for a successful project implementation.

On completion of project students will learn:

- How to design and develop projects
- Develop user experience
- Choosing amongst various process models / methodology that suit the requirements.

Details of the Bridge Course

Best Practices of Programming

- Introduction to SDLC
- Introduction to RUP
- Introduction to Agile

Introduction to DB2

- Module 1 Introduction to DB2 Environment
- Module 2 Simple SQL Queries
- Module 3 Functions - Scalar and Column
- Module 4 Using Subqueries
- Module 5 Maintaining Data
- Module 6 Integrating XML Contents with DB2

Object Orient Modeling using RSA

- Module 1 Principles of Visual Modeling
- Module 2 Concepts of Object Orientation
- Module 3 OOAD Process
- Module 4 Getting Started with RSA
- Module 5 Creating UML Models
- Module 6 Creating Use Case Diagrams
- Module 7 Creating Activity Diagram
- Module 8 Creating Class Diagram
- Module 9 Creating Interaction Diagrams

Web Application Development & Deployment using RAD

- Module 10 Other UML Diagrams - Component and Deployment
- Module 1 JAVA EE Web Component Introduction
- Module 2 JAVA EE Container Services Overview
- Module 3 Servlets Overview and API
- Module 4 JSP Specification and Syntax
- Module 5 Supporting Perspectives for Developing JAVA EE Applications
- Module 6 Course Registration System Case Study Flow
- Module 7 Page Designer in Application Developer for JSP Development
- Module 8 Web Application Debugging
- Module 9 Servlet API
- Module 10 Web Archive Deployment Descriptor
- Module 11 JDBC API using RAD
- Module 12 Session State Storage Issues
- Module 13 HTTP Session: Management of Application Data



- Module 14 Best Practices for Session Management
- Module 15 Web Application Security

Deployment of Enterprise Application on Cloud Platform

- Whats new in RAD 8.0
- Introduction to Cloud Computing
- Cloud views in the RAD 8.0 workbench
- Requesting resources on the cloud
- Installing the cloud tooling
- Creating a WebSphere Application Server on the cloud
- Configuring and deploying application on the cloud

**Applicable
Certification
Follow on
courses**

- NA -

-NA-



Course Name IBM CE Project - Enterprise Application Development using Java/ J2EE

Course Code PROJSDLOIN

Course Duration 40+ 80 Hours

About the Technology Lack of project exposure is one of the biggest challenges faced by IT companies while recruiting new hires like you. To bridge this gap, the IBM Career Education Program provides an opportunity in Experiential Learning to work on projects based on real-world problems, rather than industry simulations. Make the right beginning with a project that requires practical knowledge to back-up the theories you have mastered.

About the course The IBM Career Education – Enterprise Application Project enables the student to roll out through all the phases of application development from Requirements to Deployment. These projects mainly focus on SDLC process and usage various tools for SDLC phases. Students get an opportunity to apply a chosen application development methodology and understand the workflow in each phase of SDLC.

Benefits for participants:

On completion of project students will learn:

- Requirements and its types
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End deliverables from students:

- Object Oriented Analysis & Design using UML.
- UML diagrams like Use Case, Class, Sequence, Activity, Object diagram using Rational RSA 7.5
- Database design



- Reach and user friendly User Interfaces
- Development of application using WAS toolkit
- Manual Testing of Application developed to show that all the specified requirements – Functional & Non Functional are met.
- Generation of various analytical reports as mentioned in the requirements.
- Running Deployable application.

Targeted Audience

- Students of
- Engineering (CS, IT) – 4th Year
 - MCA –2nd Year
 - BSc, BA -3rd Year

Pre-requisites

To benefit from this course, students must:

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Contents

IBM Career Education **Major Projects** include

- Bridge course on
 - Best Practices of programming including concepts of RUP
 - Introduction to DB2
 - Object Orient Modeling using RSA
 - Web Application Development & Deployment using RAD WAS 7.5

Key features:

- Choose from a variety of Real World minor projects *based on algorithmic requirements of current day enterprise programming challenges faced by customers, who have addressed the challenges using IBM Technologies*
- Learn & work with tools, methodologies and best practices used by the enterprises today
- Constant monitoring and mentoring by experts
- *Project evaluation, and certification by IBM* for each candidate who completes the



project

These projects mainly focus on building the students' skills on appreciating and understanding the methodology to developing effective algorithmic codes and develop interactive user experience, which is the key aspect for a successful project implementation.

On completion of project students will learn:

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Web Application Development & Deployment using RAD WAS 7.5

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- Module 11 JDBC API using RAD
- Module 12 Session State Storage Issues
- Module 13 HTTP Session: Management of Application Data
- Module 14 Best Practices for Session Management
- Module 15 Web Application Security



**Applicable
Certification** - NA -
**Follow on
courses** -NA-



Course Name IBM CE Minor Project - Enterprise Application Development

Course Code MPRJSDLOIN

Course Duration 30 + 30 Hours

About the Technology Lack of project exposure is one of the biggest challenges faced by IT companies while recruiting new hires like you. To bridge this gap, the IBM Career Education Program provides an opportunity in Experiential Learning to work on projects based on real-world problems, rather than industry simulations. Make the right beginning with a project that requires practical knowledge to back-up the theories you have mastered.

About the course Minor projects act as the foundation stone in preparing you for real life software engineering challenges. They are specifically designed to provide you an opportunity to experience and learn the practical application of principles learned in various courses in last 2 years. Each project is inspired by a real life problem. Besides application of knowledge, they also promote reflective thinking, exploration of possibilities and teamwork.

Based on your interest, IBM offers a wide range of projects to choose from. While each project requires application of integrated knowledge, it also has a carefully chosen special focus area. Such focus areas include user experience design, Java EE architecture, specialized algorithms and/or data structures like Benford distribution or bloom filter, and industry standards like QR Code or RESTful APIs. It even covers projects on gaming, the most complex yet interesting and promising software vertical.

A typical minor project will enhance and sharpen your skills on Java EE, RDB, HTML/XHTML, CSS, and JavaScript using IBM's state-of-the-art tools and RUP methodology. In some of the specialized cases, not all elements may be present; for example a game development may have minimal or no database element.

A set of bridge courses help you further to fill the knowledge gap that you may have to execute a minor project of your choice successfully. During project execution, a mentor guides you through each step of the project.

This also becomes a stepping-stone to embark upon the journey of IBM Major Project; something that gives you real industrial grade software development experience right during your graduation course.

Targeted Audience

Students of

- Engineering (CS, IT, ECE, EEE) – 3rd Year
- MCA –Semester 2/3
- BSc, BA -2nd Year



Pre-requisites To benefit from this course, students must:

Students need to have knowledge of

- Basic problem determination skills
- Basic knowledge of Software Development Life Cycle and different SDLC process models
- Fundamentals of DBMS and database designing
- Basic programming skills using Java
- Exposure to Data Structures, HTML, XHTML, Java Script & CSS

Pre-requisites courses:

- IBM CE – Introduction to Object -Oriented Programming using Java
- IBM CE - Basics of Information Management with DB2

Contents

IBM Career Education **Minor Projects** include

- Bridge course on
 - Best Practices of programming including concepts of RUP
 - Introduction to DB2
- Minor projects enabling students to understand the algorithmic concepts associated with real world enterprise projects

Key features:

- Choose from a variety of Real World minor projects *based on algorithmic requirements of current day enterprise programming challenges faced by customers, who have addressed the challenges using IBM Technologies*
- Learn & work with tools, methodologies and best practices used by the enterprises today
- Constant monitoring and mentoring by experts
- *Project evaluation, and certification by IBM* for each candidate who completes the project

The IBM Career Education – Minor Project enables the student to understand the phases of application development from Requirements to Deployment. These projects mainly focus on building the students' skills on appreciating and understanding the methodology to developing effective algorithmic codes and develop interactive user experience, which is the key aspect for a successful project implementation.

On completion of project students will learn using Java, HTML & Java Script:

- How to design and develop algorithms
- Develop user experience
- Choosing amongst various process models / methodology that suit the requirements.

Details of the Bridge Course

Best Practices of Programming

- Introduction to SDLC
- Introduction to RUP
- Introduction to Agile

Introduction to DB2

- Module 1 Introduction to DB2 Environment



- Module 2 Simple SQL Queries
- Module 3 Functions - Scalar and Column
- Module 4 Using Subqueries
- Module 5 Maintaining Data
- Module 6 Integrating XML Contents with DB2

**Applicable
Certification**

- NA -

**Follow on
courses**

IBM CE Enterprise Applications Major Projects using Java/ J2EE