

COURSE PROSPECTUS

**Name of the Group:** *IT Group*

**Name of the Course:** *Advanced Diploma in Cloud Computing*

**Course Code:** *SW701*

**Starting Date:** *07<sup>th</sup> December 2016*

**Duration:** *12 Weeks*

**Preamble:** *Business @ the speed of thought has moved from a buzzword to a business reality owing to the integration of business and technology. Digital infrastructures and information networks have become central to any business activity. The information residing on these computers, networks and in cloud are an essential asset and due care should be taken for its security. The impact of any loss of this asset or any downtime of the infrastructure is quite high with the proliferation of easy-to-use tools and open how-to-discussions, the number of people aiming to hack in to or bring down the network is high, both in this country and abroad. Hence, there is a need for heightened security measures to protect both infrastructure and data.*

**Objective of the Course:** *The Course is a 12 weeks program aimed at molding candidates to Skilled System/Cloud Engineer with Information Security knowledge to maintain the Systems, Networks and cloud infrastructure in today's scenario.*

**Outcome of the Course:** *This skill-oriented course provides candidates with information required for configure and administration of OS Server, Cloud Deployment & its Security and equip them with the skills required to protect & recover the computer systems & networks from various security threats in dedicated or cloud environment.*

**Course Structure:**

Sl. No.	Module Name	Duration
1	Cloud Computing and Deployment Types with SaaS Cloud	1 Week
2	PaaS Cloud with OpenShift and Bluemix	2 Weeks
3	Cloud Infrastructure using OpenStack, XenServer, vSphere and AWS	3 Weeks
4	Information System Security	2 Weeks
5	Cloud Security and Monitoring	1 Week
6	Project	3 Weeks

*Other Contents*

a. **Course Fees :**

**General Candidates:** Course Fee is ₹ 35,000/- + Service Tax at actuals

**SC/ST Candidates:** Tuition Fees/Examination fees are waived for SC/ST students admitted under SCSP/TSP. However they are required to remit an amount of ₹ 4100/- as **Advance caution/Security deposit**. This amount will be considered as caution/security deposit and will be refunded after successful completion of the course. If the student fails to complete the course successfully this amount along with any other caution/security deposits by the student will be forfeited.

**Modular wise Course Fee:** Not Applicable for this course

- b. **Registration Fee:** An amount of ₹1000/- should be paid at the time of registering for the course. The same will be considered as caution deposit on student joining the course. This advance deposit will not be refunded for a selected candidate who does not join the course.
- c. **Course Fee Installment Structure:**

Students can pay the full fees of is ₹ 40,250/- (is ₹ 35,000/- + Service Tax) in advance or as installments as given below

Fees	*Amount for General Candidates	Amount for SC/ST Candidates	Due Date (on or before)
**Advance Fee	₹ 10000/-	₹ 4100/- (refundable after successful completion of course)	02 <sup>nd</sup> Dec-2016
1 <sup>st</sup> Installment	₹ 30,250/- (if advance deposit paid) else ₹ 40,250/-	Nil	07 <sup>th</sup> Dec-2016
*** 2 <sup>nd</sup> Installment	Nil	Nil	Nil

\* Above fees is inclusive Service Tax @ actuals (15%) and revision if any will be applicable at the time of payment.

\*\* Advance fee - After publication of first selection list, the students in the first selection list have to pay the Advance Deposit within one week to take the provisional admission. Students in the additional selection should pay both Advance and First installment fee together on or before counseling day

\*\*\* Not Applicable

Fine will be applicable to late fee payment as given below

Sl. No.	Description	Fine
1	Late fee payment within two weeks after due date	18% (annually) of the outstanding dues
2	After second week of due date the candidate has to pay readmission fees along with the fine	Readmission fee ₹250/- plus fine of 18% (annually) of the outstanding dues
3	The candidate has to discontinue the course after third week from the due date	

d. Eligibility: *ME / MTech, BE / BTech, MCA, MSc / BSc (IT / Computer Science / Electronics) or equivalent of any of these.*

e. Number of Seats : 20

f. How to Apply :

Students are advised to apply online or in the prescribed Application Form available with the course brochure/course prospectus or downloaded from our website. Filled-in application forms along with a Demand Draft (or proof of payment through any of the following modes) towards advance fee of Rs.1,000/- *drawn in favour of* Director, NIELIT, Calicut, *Payable at* State Bank of India, NIT Campus Branch (code: 2207), Chathamangalam should be sent to the **Training Officer, NIELIT, P. B. No. 5, NIT Campus Post, CALICUT – 673 601, Kerala. The Name of the Course Applied for should be super scribed on the top of the cover in which the application form is forwarded.**

Rs.1000/- will be considered as refundable caution deposit on student joining the course. This advance deposit will not be refunded for a selected candidate who does not join the course.

**Modes of Payment:** The course fee can be paid by one of the following methods as per your convenient.

1	Demand Draft to be drawn in favor of Director, NIELIT, Payable at State Bank of India, Calicut NIT Branch (2207). The DD should reach here before the last date to apply.
2	Through any branch of SBI (where this format is accepted) using the pay in slip available in our web site. The <b>original counterfoil</b> should reach here before the last date to apply.
3	<p>The fees can be paid directly into our account from any bank where core banking facility is available. The details required for direct payment are as given below.</p> <ul style="list-style-type: none"> <li>• Savings Account No: <b>10401158037</b></li> <li>• Bank Name: <b>SBI, NIT Chathamangalam</b></li> <li>• Bank Code: <b>2207</b></li> <li>• IFSC No: <b>SBIN0002207</b></li> <li>• MICR : <b>673002012</b></li> </ul> <p>The depositor should obtain the UTR Number/Journal No from the branch while depositing cash directly into our account. Depositor should also obtain the counterfoil duly filled up and signed by the staff with seal of the bank through which the amount was deposited. The following details should reach here before the last date to apply.</p> <ol style="list-style-type: none"> <li>1. Name of the Depositor</li> <li>2. Name of the Student</li> <li>3. Date of Payment</li> <li>4. Amount Deposited</li> <li>5. Name of Bank/branch through which amount deposited</li> <li>6. Purpose – Course ID – Advance Deposit/Hostel Rent/Installment Fee etc.</li> <li>7. Proof of Deposit (counterfoil/acknowledgement <b>in original</b>)</li> </ol>

	8. UTR Number
4	<p>The fees can be paid through the <b>SBI Collect</b> Payment Gateway as well:</p> <ol style="list-style-type: none"> <li>1. Please click the SBI Collect hyper link to enter the payment gateway.</li> <li>2. Select State of Corporate/Institution as <i>Kerala</i></li> <li>3. <i>Select</i> Type of Institution <i>Educational Institutions</i> and click on <i>Go</i> button</li> <li>4. <i>Select</i> Educational Institutions Name as <i>NIELIT</i> and click <i>Submit</i> button</li> <li>5. Select Payment Category as <i>Course Fee</i></li> <li>6. Enter all the fields including amount payable and follow the instructions</li> </ol> <p>The following details should reach here before the due dates.</p> <ol style="list-style-type: none"> <li>1. Name of the Depositor</li> <li>2. Name of the Student</li> <li>3. Date of Payment</li> <li>4. Amount Deposited</li> <li>5. Purpose – Course Name:</li> <li>6. UTR Number</li> </ol>
5	<p>POS Facility</p> <p>Point of Sale (POS)/Card Swiping Machine facility is available at Accounts section for the purpose of remittance of amount dues to the Centre.</p> <p>As of now, there may not be any additional charge for usage of SBI / SB Group's Debit/ATM Cards, while making payment. However there could be additional charges (up to 2% of payment) for cards of other banks depending on the policy of the card issuing bank/type of card.</p>

The Institute will not be responsible for any mistakes done by either the bank concerned or by the depositor while remitting the amount into our account.

- g. Selection of candidates: *Selection of candidates who have passed in the qualifying examination will be based on their marks in the qualifying examination subject to eligibility and availability of seats.*

*The admission to the course shall be based on the following criteria:*

1. *Should have passed the eligibility criteria as mentioned above.*
2. *The list of selected students shall be published in our web site. Individual call letters **by email or SMS** will be sent to the candidates.*
3. *The admission for the selected students shall be confirmed only after verifying their original certificates. The verification of certificates for such candidates shall be on the date of counseling.*

- h. Test/Interview: *Not applicable*

- i. Counseling/Admission : **07<sup>th</sup> December 2016**

- j. Spot Admission: If spot admission is open, spot admission will close within 15 days of Counseling/Admission of a particular course. On spot admission students should

provide an undertaking saying that he/she is fully aware that he/she missed so much days of class and will not ask for extra classes or further extension of course.

k. Admission Procedure :

Students who have been selected for test/interview/counseling/admission are required to report to the Institute on the prescribed day by 9:30 hrs along with the following

1. Original and attested Copies of Proof of Age, Qualifications, etc
2. One passport size photograph and one stamp size photograph for identity card.
3. SC/ST Certificate (Original and attested copies, if applicable)
4. Income Certificate (Original and attested copy, if applicable)

The students on reaching the Institute are required to meet the Front Office Councilor (FOC). The FOC then directs the student to the Course Coordinator. The student gets the certificates and enrollment form verified by the Course Coordinator and then meets the FOC who shall direct the student to the Accounts for payment of fees. A student is thus admitted, attested copies of all documents shall be handed over to the Course Coordinator.

1. Discontinuing the course: No fees (including the caution deposit) under any circumstances, shall be refunded in the event of a student discontinuing the course. No certificate shall be issued for the classes attended.

A student can however, be eligible for module certificates (applicable only for courses which provide for modular admission) which he has successfully completed provided, he/she has paid the entire course fees. This is not applicable to SC/ST candidates availing fee concession. SC/ST candidates availing fee concession are eligible for module certificates only after completing the full course with required attendance

- m. Course Timings : 9.45 A.M to 01.00 PM and 02.00 PM to 5.00 PM [Monday – Friday]

n. Location and how to reach :

NIELIT Calicut is located very close to NIT campus and is about 22Kms from the Calicut (Kozhikode) city. A number of buses (Buses to NIT via Kunnammangalam) are available from "Palayam Bus Stand and KSRTC Bus Stand". The bus stop at our Institute is called "Panthrand" and is one stop before NIT. The bus fare is around ₹ 17/- from Calicut City to NIELIT.

Calicut (Kozhikode) is well connected by Rail, Road and Air from different parts of the country. The maximum and minimum temperatures range between 35°C and 20°C.

- o. Course enquiries: *Students can enquire about the various courses either on telephone or by personal contact between 9.15 A.M. to 5.15 P.M. (Lunch time 1.00 pm to 1.30 pm) Monday to Friday.*

**Telephone Numbers:**

Office 0495 - 2287266 / 2287268  
Director's Office 0495 - 2287123  
Training Officer 0495 - 2287266  
SW500 Course Coordinator 0495 - 2287266 (239)  
Office Fax 0495 - 2287168  
E-mail: [trng@calicut.nielit.in](mailto:trng@calicut.nielit.in)  
Website: [www.calicut.nielit.in](http://www.calicut.nielit.in)

p. Important Dates (if applicable) :

Last date to apply online/offline with Reg. fee	<b>30<sup>th</sup> November 2016</b>
Date of Selection list publication	<b>30<sup>th</sup> November 2016 (5:30 PM)</b>
Last date to pay the advance fee (Rs. 10,000/-)	<b>05<sup>th</sup> December 2016</b>
Counseling/Admission	<b>07<sup>th</sup> December 2016</b>
Last date to pay the first installment	<b>07<sup>th</sup> December 2016</b>
Commencement of classes	<b>08<sup>th</sup> December 2016</b>

q. Placement: Placement support will be provided, almost all the eligible students placed/working in Cisco, AT&T, Citrix, Pricewaterhousescoopers, SISA, HCL, Kane, NTT DATA, Sify and Kuliza Technologies.

r. Hostel facilities: Hostel accommodation is available for boys and girls on monthly or daily chargeable basis. The hostel fee varies from Rs. 1,000/- to Rs. 1,600/-- (for boys) per month and Rs. 1,000/- to Rs. 1,500/- (for Girls) per month depending on the type of accommodation. However, students are required to pay the hostel fees for the duration of the course for which they are seeking admission at the time of joining the course.

An amount of Rs. 3,000/- should be paid as caution deposit (hostel & mess) at the time of joining the hostel which will be refunded/adjusted at the end of the course.

s. Canteen facilities: Canteen facility is available and students staying in the hostel should pay monthly mess fee of Rs.3000/-. For all inmates, boarding in the mess is compulsory.

An amount of Rs. 1,000/- should be paid as caution deposit to the Canteen Contractor at the time of joining the mess which will be adjusted in the last month mess fee.

t. Lab Facilities: The IT Lab is equipped with Intel Xeon Dual Processor based servers from HP, IBM, DELL, HCL, managed gigabit switches and more than 100 networked PCs with internet facility. SaaS, PaaS and IaaS open source cloud servers. A variety of software is available which include various flavors of Windows and Linux Operating Systems like Windows, RedHat Enterprise Linux/CentOS 6/7, RT Linux, OpenStack, CloudStack, OpenVAS/Nessus and various commercial and open source development tools, database and cloud servers.

u. Course Contents :

1. Cloud Computing and Deployment Types with SaaS Cloud (1 Week)

- I. Introduction to Cloud Computing
  - II. Types of Cloud Services
  - III. Introduction to SaaS Cloud
  - IV. SaaS Cloud Deployment with Open Source Tools
2. PaaS Cloud with OpenShift and Bluemix (2 Weeks)
- I. Introduction to PaaS Cloud
  - II. PaaS Cloud Deployment with Google App Engine
  - III. PaaS Cloud Deployment with OpenShift
  - IV. PaaS Cloud Deployment with Bluemix
3. Cloud Infrastructure using OpenStack, XenServer, vSphere and AWS (3 Weeks)
- I. Introduction to IaaS Cloud
  - II. Types of Cloud Deployment with Xen/KVM
  - III. Setting Private Cloud with OpenStack
  - IV. Setting Private Cloud with XenServer and XVP
  - V. Setting Private Cloud with vSphere
  - VI. Deployment with Public Cloud AWS
4. Information System Security (2 Weeks)
- I. Access Control Types
  - II. Cryptography and Algorithm Analysis
  - III. Configuring DNS Server
  - IV. Securing DNS
  - V. Configuring Web Server with Virtual Hosting
  - VI. Securing Web Server
  - VII. Configuring MySQL Server with phpMyAdmin
  - VIII. Configuring Mail Server
  - IX. Securing Mail Server
  - X. Configuring NFS Server
5. Cloud Security and Monitoring (1 Week)
- I. Cloud Monitoring with Nagios
  - II. Cloud Auditing
  - III. Cloud Security Best Practices
  - IV. Cloud Standards
6. Project (3 Weeks)

**Project:** During the 3 weeks project period students are required to design and deploy private cloud server in any of the areas covered in the course, under the guidance of the faculty. Students can also take up relevant projects from the industry.

No.	Project Phases	Duration	Marks for each Phase
1	Analysis	One Week	50 Marks
2	Design	One Week	50 Marks
3	Coding, Testing and Implementation	One Week	50 Marks
4	Evaluation		50 Marks
<b>Total</b>			<b>200 Marks</b>