VTU e-Learning Centre: Technology Enhanced Learning

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Professor and Special Officer,
VTU E-Learning Center,
Mysore
AGENDA

1. Overview of VTU
2. Edusat Network Programme
3. Satellite Interactive Terminals
4. E-Vidya Media Streaming Systems
5. Web Based e-Learning
6. Research Portal
7. VTU & Virginia Commonwealth University
8. Workshops & Faculty Development Programmes
9. NPTEL – NMEICT E-Content Generation
10. New Initiatives
Overview of VTU

- Visvesvaraya Technological University is named after Sir M. Visvesvaraya
- Established in the year 1998 and sprawling 115-acre campus
- Four Regional Offices: Bangalore, Belgaum, Gulbarga and Mysore
- Member of Association for Indian Universities
- Recognized by UGC
- MOU with IBM, Intel, Asia Electronics Inc., Ingersoll-R and, Microsoft, Diamant Metal plastic of Germany, etc.
- General Agreement with VCU, USA
Visvesvaraya Technological University, started in the year April 1998, has ushered in a new paradigm in the field of technical education by bringing all the engineering colleges under a single umbrella & has a mission of becoming an outstanding university by producing world-class engineers.
- Number of affiliated engineering colleges: 203
- Student intake: Appr. 80,000 per year
- Number of undergraduate programmes: 28
- Number of M.Tech. programmes: 71
- MBA, MCA, M.Sc.(Engg) and Ph.D.
- Number of research centers under VTU: 115
- e-Learning Centre and VTU Studio
- VTU Bosch Rexroth Training centre
- VTU PG Centres
EDUSAT

in

VTU

The Single Largest Connected University

in the World
VTU e-Learning Centre:
Edusat Network Programme

- All the engineering colleges affiliated to VTU have been Networked as the single largest connected university in India
- The EDUSAT programmes are being transmitted in two different channels:
  I. **SIT-Interactive Channel**, which is interactive with two-way video and two-way audio (70 affiliated institutions are commissioned)
  II. **DTH-based network channel** with one-way video and one-way audio (94 affiliated institutions are Commissioned)
Edusat Network Programme

- EDUSAT satellite-based distance education facility
- VTU subjects of different disciplines, soft skills, career development, frontier lectures, exam-revision, CXO speaks etc.
- Create web-based e-learning facility: Video/text contents
- Disseminate contents in VTU e-Learning portal
- Provide interaction/guidance/feedback tools to learners/students
- Supplement the conventional system of training and education and bring uniformity in technical education
Channel-I

This channel works on **VSAT-based** network

Channel-II

This is a **DTH-based** channel
VTU Studio

- Live lectures of eminent Subject Matter Experts (SME’s) from both academia and industry

- ** Equipments: ** Effective cameras, video encoders, video streaming server, satellite modem, digital tablet with electronic annotation facility, DVD player, DVD recorder, interaction moderation systems (IMS)
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<th>Description</th>
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<tr>
<td>1</td>
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<td>1. Full Semester</td>
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<td>3. CXO Speaks</td>
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<td>4. Exam revision services</td>
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<td>5. Technology Specific Classes</td>
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<td>6. Soft Skill Classes</td>
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<td>7. Frontier Lecture series</td>
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E-Vidya Media Streaming Systems

- Offers an excellent technology - digital videos of complete courses
- Stored in Mpeg-4 format
- High speed streaming server - a content management software and renders streaming of videos to the users
- Video streaming of NPTEL contents is first of its kind in the country
- VTU is first University in the country to deploy this technology to be used in affiliated colleges
E-Vidya Media Streaming Systems

Key Features

• Instant comprehensive E-learning solution
• High quality on-demand unlimited video media streaming over campus LAN
• 60 (50+10) colleges have received this facility under phase I & II
• Sun fire T5120 high performance streaming server: OS/Solaris
• J4200 9 Tera Byte storage System: Video Contents
• 6000 hours of Video contents (NPTEL), Sun Academic Initiative (SAI) contents under Moodle LMS (Learning Management System)
• 500 Concurrent streams i.e., 500 clients can access any contents at any time
E-Vidya Media Streaming Systems

E-Vidya Secure Content and Community Management Platform

NPTEL Media Repository

Campus 1 LAN

Campus 2 LAN

Campus 1 E-Vidya Media Repository

Campus 1 E-Vidya Media Server

Campus 2 E-Vidya Media Repository

Campus 2 E-Vidya Media Server

Campus 1

Campus 2

VTU E-Learning Centre, Mysore

9/26/2013
Sun fire T5120 high performance streaming server
OS/Solaris
E-Vidya Media Streaming Systems

• VTU e-Learning Centre initiated to provide this facilities to all affiliated colleges phase by phase
• The Centre initiated to deploy re-mastered VTU video contents
• The Centre initiated to deploy NPTEL web contents
• The Centre is planned to have its own Storage and Backup Solution for Video Contents
Web Based Learning

- e-Learning courseware is being made available on the web to any learner
- The Complete Course Materials have developed in standard SCORM format.
- The SCORM Contents are deployed in MOODLE Learning Management System.
- The Course Materials can be accessed using the URL http://ecourses.vtu.ac.in
# Web Based Learning Contents

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<td>VTU Courses with 3D Animations</td>
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<tr>
<td>4.</td>
<td>SUN Academic Initiatives Contents</td>
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Research Portal

- Access all necessary information by research community
- Abstracts of research topics of all research scholars
- Mid Term Periodic Reports
- Tracking of submission status
- Discussion forum to the researchers to interact
Research Portal

- Progress Report of Research Scholars
- Provide journal access facility to all the research scholars
- The Centre has provided an official unique user id’s to all the research scholars for official correspondence (http://researchmail.vtu.ac.in)
VTU & Virginia Commonwealth University School of Business - USA

• Signed general agreement between VTU and VCU for Student Exchanges, Faculty Exchanges and Research Collaboration

• Conducting Bridge Courses through VTU e-Learning Section
* VCU proposed programmes are

**Master of Science**
- In Global Marketing Management
- In Finance
- In Information Security
- In Human Resources Management
Workshop on Research Methodologies

- A Workshop on Research Methodologies and Latex

- Objectives is to give the basic skills that are essential to becoming a successful researcher

- VTU E-Learning Centre is successfully conducted workshop in three phases.
Faculty Development Programme

• On Simulation, Emulation & Traffic Analysis Techniques in Communication Networks
NPTEL - NMEICT E-Content Generation

- Proposed to develop e-contents under the grants of NMEICT using the standard of four quadrant approach
- Proposed e-contents would augment the VTU e-learning effort to provide best learning contents to the student community
- Identified Ten Subjects from VTU curriculum and SME’s
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<th>Sl. No</th>
<th>Subject Coordinators</th>
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<tr>
<td>1</td>
<td><strong>Dr.H.N.Suresh,</strong></td>
<td>Field Theory</td>
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<tr>
<td></td>
<td>Professor, Dept of Electricals &amp; Electronics Engg, Malnad College of Engineering, P.B.No.21, Hassan-573201</td>
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<td></td>
<td><strong>Prof. L.Kumaraswamy,</strong></td>
<td></td>
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<tr>
<td></td>
<td>Dept of Electricals &amp; Electronics Engg, Malnad College of Engg, P.B.No.21, Hassan-573201</td>
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<td>2</td>
<td><strong>Dr.K.Uma Rao,</strong></td>
<td>DSP Algorithms &amp; Architectures</td>
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<tr>
<td></td>
<td>Professor, Dept of Elec &amp; Comm Engg, RNS Institute of Technology, Subramanyapura, Bangalore – 560061</td>
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<td>3</td>
<td><strong>Prof.Vineeta P Gejji,</strong></td>
<td>Analog &amp; Mixed Mode VLSI Design</td>
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<tr>
<td></td>
<td>Professor &amp; Head, Dept of Electronics &amp; Communication Engg, Gogte Institute of Technology, Udyambag, Belgaum - 590 008</td>
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<td>4</td>
<td><strong>Dr.Jayaramaiah,</strong></td>
<td>Embedded System Design</td>
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<td></td>
<td>Professor, Dept of Electronics &amp; Communication Engg, Dr.Ambedkar Institute of Technology, Bangalore – 560056</td>
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<td>5</td>
<td><strong>Dr.Vibha L</strong></td>
<td>Logic Design</td>
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<td></td>
<td>Professor, Dept of Computer Science &amp; Engg, B N M Institute of Technology, Bangalore - 562145</td>
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### Identified Subjects and SME’s

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<td>6</td>
<td>Dr. G. Raghavendra Rao</td>
<td>Professor, Dept. of CSE</td>
<td>National Institute of Engineering, Mysore</td>
<td>Mysore</td>
<td>570 008</td>
<td>Software Architecture</td>
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<td>7</td>
<td>Dr. Sahana D Gowda</td>
<td>Professor, Dept. of Computer Science &amp; Engg.</td>
<td>B N M Institute of Technology, Bangalore</td>
<td>Bangalore</td>
<td>562145</td>
<td>Digital Image Processing</td>
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<td>8</td>
<td>Dr. Channarayappa</td>
<td>Professor, Dept. of Bio-Technology</td>
<td>M S Ramaiah Institute of Technology, Bangalore</td>
<td>Bangalore</td>
<td>560054</td>
<td>Molecular Biology and Genetic Engineering</td>
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<td>9</td>
<td>Dr. G. S. Suresh</td>
<td>Professor, Dept. of Civil Engg.</td>
<td>National Institute of Engineering, Mysore</td>
<td>Mysore</td>
<td>570 008</td>
<td>Advanced Design of RC Structures</td>
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<td>Dr. M. C Nataraja</td>
<td>Professor, Dept. of Civil Engg.</td>
<td>Sri Jayachamarajendra College of Engg.</td>
<td>Mysore</td>
<td>570 006</td>
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<td>10</td>
<td>Dr. S. C. Pilli</td>
<td>Principal &amp; Head, Dept. of Mechanical Engg.</td>
<td>K L E College of Engineering &amp; Technology, Udyambag</td>
<td>Belgaum</td>
<td>590 08</td>
<td>Mechanical Vibration</td>
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<td>Prof. M. A. Kamoji</td>
<td>Professor, Dept. of Mechanical Engg.</td>
<td>K L E College of Engineering &amp; Technology, Belgaum</td>
<td>Belgaum</td>
<td>590 008</td>
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VTU e-Learning Centre: New Initiatives

• Separate HUB: Antenna/Hub from Treasury of GOK

• Planned to deploy the recorded video course materials of EDUSAT programme to E-Vidya servers through Edusat HUB

• Planned to Conduct Certification Programmes, e-courses, MS in association with VCU, USA

• Provide official identity cards to research scholars of VTU.
THANK YOU