



COURSE PLAN

1. Course Outline

Course Title	Mobile and Pervasive Computing		
Course Code	CA7C3		
Department	Computer Applications	No. of Credits	3
Programme	MCA	Learning Hours	3 Per Week
Pre-requisites Course	Computer Networks	Faculty Name	Dr. Adlin K
E-mail	adlin@nitt.edu	Telephone No.	0431-2504653
Course Type	Elective	Office	Lyceum 118
Course Materials	https://www.slideshare.net/rnpatel		

2. Course Overview

This course aims to provide an understanding of the issues, technologies and concepts underlying the fields of Mobile and Pervasive Computing. Pervasive computing studies the techniques that enable the saturation of our environments and daily life with computing and communication capability. Mobile and embedded devices, wired and wireless networks, distributed processing all contribute to pervasive computing. In this course, we will examine the promises and issues of pervasive computing, especially from the perspective of computer systems. At the end students will be able to evaluate different methodologies of mobile computing and able to apply the concepts of pervasive computing in real life problems

3. Course Objectives

To introduce the necessary concepts of mobile communication system and pervasive computing

4. Course Outcomes (CO)

Students will be able to:

1. Analyze the architecture for Mobile computing platform
2. Identify and be able to use recent and advanced GSM architecture with emerging technologies
3. Explore, Evaluate different mobile computing methodologies
4. Apply the concepts of pervasive computing in real life problems

5. Course Outcome (CO)	Aligned Programme Outcome (PO)											
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12
CO-1	H	H	L									
CO-2	H	H	H	M	M							
CO-3	H	H	H	M	H							
CO-4	H	H	M	H	H							

6. Course Teaching and Learning Activities		
Week	Mode of Delivery	Topics
1.	Chalk and Talk, PPT	Mobile Computing – Networks
		Middleware and Gateways
		Developing Mobile Computing Applications
2.	Chalk and Talk, PPT	Mobile Computing Architecture: Architecture for Mobile Computing
		Three Tier Architecture
		Design Considerations for Mobile Computing
3.	Chalk and Talk, PPT	Global System for Mobile Communications – GSM Architecture – GSM Entities - Call Routing in GSM
		GSM Addresses and Identifiers – Network Aspects in GSM
		GSM Frequency Allocation
4.	Chalk and Talk, PPT	Authentication and Security -Mobile Computing through Internet
		Mobile Computing through Telephone – Emerging Technologies: - Bluetooth
		RFID -Wireless Broadband (WiMax) - Mobile IP
5.	Chalk and Talk, PPT	Short Message Service (SMS)- Value Added Services through SMS –
		GPRS- GPRS and Packet Data Network – GPRS Network Architecture –
		GPRS Network Operations –Data Services in GPRS- Applications for GPRS – Limitations of GPRS
6.	Chalk and Talk, PPT	CDMA and 3G- Spread Spectrum Technology
		CDMA Versus GSM – Wireless Data
		Third Generation Networks – Applications on 3G
7.	Chalk and Talk, PPT	Pervasive Computing: Past, Present and Future Pervasive Computing
		Pervasive Computing Market m-Business
		Application examples: Retail, Airline check-in and booking
8.	Chalk and Talk, PPT	Sales force automation
		Health care – Tracking
		Car information system – E-mail access via WAP
9.	Chalk and Talk, PPT	Device Technology: Hardware
		Human Machine Interfaces
		Biometrics
10.	Chalk and Talk, PPT	Operating Systems
		Java for Pervasive devices
		Summary

- All the relevant material will be available in the course material website.

8. Course Assessment Methods

Sl. No.	Mode of Assessment	Week/Date	Duration	Weightage (%)
1.	Cycle Test – 1	4th week	60 Mins	20
2.	Cycle Test – 2	8th week	60 Mins	20
3.	Assignment test/Seminar	9th week	15 Mins	10
4.	End Semester Exam	-	180 Mins	50
Total				100

9. Essential Readings (Textbooks, Reference books, Websites, Journals, etc.)

1. Ashok K. Talukder and Roopa R.Yuvagal, "Mobile Computing", 2nd Edition, Tata McGraw Hill, 2010
2. Jochen Burkhardt, Horst Henn, Stefan Heper, Klaus Rindtorff and Thomas Schack, "Pervasive Computing Technology and Architecture of Mobile Internet Applications", Addison Wesley, 2002.
3. Uwe Hansmann, L. Merk, M. Niclous, T. Stober and U.Hansmann, "Pervasive Computing", Springer Verlag, 2003. Principles and Techniques", Wiley Desktop Editions, 2007.

10. Course Exit Survey

1. The students through the class rep may give their feedback at any time to the course HOD which will be duly addressed.
2. The students may also give their feedback during Class Committee meeting.
3. 'Course Outcome Survey' form will be distributed on the last working day to all the students and the feedback on various rubrics will be analyzed.
4. The COs will be computed after arriving at the final marks.

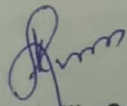
11. Course Policy

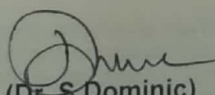
1. Attendance
100% is a must. However, relaxation up to 25% will be given for leave on emergency requirements (medical, death, etc.) and representing institute events.
2. Academic Honesty
 - i) Possession of any electronic device, if any, found during the test or exam, the student will be debarred for 3 years from appearing for the exam and this will be printed in the Grade statement/Transcript.
 - ii) Tampering of MIS records, if any, found, then the results of the student will be withheld and the student will not be allowed to appear for the Placement interviews conducted by the Office of Training & Placement, besides (i).

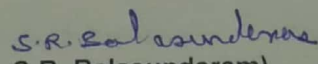
12. Additional Course Information

The students can get their doubts clarified at any time with their faculty member.

For Senate's Consideration


(Dr. K. Adlin Suji)
Course faculty


(Dr. S. Dominic)
Class Committee Chairperson


(Dr. S.R. Balasundaram)
Head of the Department