



**San Jose  
Polytechnic  
University**

**Summer 2017  
Course Schedule**  
5/8/2017 – 8/12/2017

## DEPARTMENT OF MOBILE COMPUTING

**Course #** MC 500  
**Course Title** Introduction to Mobile Computing  
**Prerequisite** Graduate Standing  
**Description** The purpose of this course is to introduce students to the general topics in Mobile Computing System architecture. Topics covered in this course are: mobile computing infrastructure, mobile hardware device introduction, mobile communication basics, mobile computing security, mobile application architecture, mobile development environment, and mobile development management.  
**Units** 3

<b>COURSE#</b>	<b>DATE</b>	<b>TIME</b>	<b>INSTRUCTOR</b>	<b>ROOM</b>
MC 500 – 1	Sat	3:15 – 6:15 PM	Dr. Eugene Chang	103

**Course #** MC 501  
**Course Title** Android OS and Open Source Development  
**Prerequisite** Graduate Standing  
**Description** The purpose of this course is to introduce students how to leverage Android open source software to develop Android-based products. Topics covered in this course are: Android Software Development Kit (SDK) & Native Development Kit (NDK), Android Build System, Android kernel, Android runtime environment, Android Debug Bridge (ADB), Android porting, and Open Source development environment and tools.  
**Units** 3

<b>COURSE#</b>	<b>DATE</b>	<b>TIME</b>	<b>INSTRUCTOR</b>	<b>ROOM</b>
MC 501 – 1	Sat	9:00 – 12:00 PM	Prof. Johnson Tsay	103

**Course #** MC 503  
**Course Title** Mobile Software Development with JAVA  
**Prerequisite** C Programming Language  
**Description** The purpose of this course is to provide the graduate students with the fundamental aspects of Java programming from the basic to the advanced language features. Topics covered in this course are: Java fundamentals (basic language syntax & constructs), Java's implementation (classes, data, inheritance, array, and functional access control), GUI, object orientation design, 2D and 3D graphics drawing, event handling, Java class library, collection framework, XML, Eclipse for Java development, and Java debugging.  
**Units** 3

<b>COURSE#</b>	<b>DATE</b>	<b>TIME</b>	<b>INSTRUCTOR</b>	<b>ROOM</b>
MC 503 – 1	Tue	6:30 – 9:30 PM	Prof. J.J. Sheu	103

## DEPARTMENT OF VLSI ENGINEERING

**Course #** VE 500  
**Course Title** Computer Architecture  
**Prerequisite** Graduate Standing  
**Description** The purpose of this course is to introduce students to the general topics in Computer Organization and to study the MIPS architecture and design philosophy in particular. Topic covered in this course are: performance measurement, computer architecture design and tradeoffs, computer arithmetic and implementation, MIPS assembly language, MIPS instruction set architecture (ISA), hierarchical memory architecture, and storage system.  
**Units** 3

COURSE#	DATE	TIME	INSTRUCTOR	ROOM
VE 500 – 1	Wed	12 – 3 PM	Prof. Jack Ho	103

**Course #** VE 502  
**Course Title** Computer Networks  
**Prerequisite** Graduate Standing  
**Description** The purpose of the course is to provide students with fundamental knowledge of computer networking technologies and infrastructure that is required by modern information professionals. Students will have detailed description of each layer of ISO/OSI reference model, including physical, data link, network and application protocols and functionality of each layer of TCP/IP reference model. Topics covered in this course are: Network Hardware and Software, Network Standardization, The Physical Layer: Data Communication, Transmission Media, Wireless Transmission, Communication Satellites, The Data Link Layer: Design and Interface Issues, Error Detection and Correction, Data Link Layer Protocol and Verification, Medium Access Control: Channel Allocation, Multiple Access Arbitration, Network Layer: Design Issues, Routing Algorithms, Congestion Control Algorithms, Internetworking Technology, IP Protocol, The Transport Layer: Internet Transport Protocols, UDP and TCP, Performance Issues, The Application Layer: Domain Name System, Client/Server Model, Socket Programming, Electronic Mail, World Wide Web, Wireless Networks, Network Security and Management.  
**Units** 3

COURSE#	DATE	TIME	INSTRUCTOR	ROOM
VE 502 – 1	Tue	12 – 3PM	Mr. Jack Ho	103

**Course #** VE 503  
**Course Title** VLSI Design  
**Prerequisite** Graduate Standing  
**Description** The purpose of this course is to provide the graduate students with the basic introduction of VLSI Design and the complete coverage of CMOS design requirements. Topics covered in this course are: Microelectronics evolution, VLSI design flow, MOS transistor theory, CMOS fabrication technology, layout design introduction, design rules, stick diagrams, circuit performance estimation, CMOS design flow methods, circuit simulation, physical design introduction, timing analysis & optimization, power, clock distribution, design verification, and antenna check theory.  
**Units** 3

COURSE#	DATE	TIME	INSTRUCTOR	ROOM
VE 503 – 1	Sat	12 – 3 PM	Prof. Amulya Pastra	103

Course # VE 504  
Course Title Embedded Systems Design  
Prerequisite VE 500, VE 501

Description The purpose of this course is to introduce the graduate students to the fundamentals of embedded system hardware and firmware design. Topics covered in this course are: embedded processor selection, hardware/firmware partitioning, glue logic, circuit design and layout, hardware debug, firmware development and debug tools, firmware architecture and design, and platform debug.

Units 3

<b>COURSE#</b>	<b>DATE</b>	<b>TIME</b>	<b>INSTRUCTOR</b>	<b>ROOM</b>
<b>VE 504 – 1</b>	<b>Wed</b>	<b>10 AM – 1 PM</b>	<b>Dr. Rahul Dubey</b>	<b>103</b>

Course # VE 511  
Course Title Digital Logic Design Using Verilog  
Prerequisite VE 503

Description The purpose of this course is to provide the graduate students with the fundamental aspects of logic design systems, verilog constructs and hardware modeling techniques. Topics covered in this course are: digital design specification, sub-systems logic design, design integration, design validation, and verilog model design including language elements, data types, structural, dataflow & behavioral modeling, and common constructs & coding consideration.

Units 3

<b>COURSE#</b>	<b>DATE</b>	<b>TIME</b>	<b>INSTRUCTOR</b>	<b>ROOM</b>
<b>VE 511 – 1</b>	<b>Sat</b>	<b>3:15 – 6:16 PM</b>	<b>Mr. Amulya Patra</b>	<b>103</b>

Course # VE 517  
Course Title FPGA Design and Implementation  
Prerequisite VE 503

Description The purpose of this course is to enable the graduate students to design and implement the custom computing systems with field programmable gate arrays (FPGAs).

Topics covered in this course are: computing methods comparison, VHDL introduction, FPGA architectures fundamentals, FPGA placement and routing, FPGA configuration, reconfigurable computing architectures, reconfigurable computing applications, high-level compilation, and hardware & software partitioning.

Units 3

<b>COURSE#</b>	<b>DATE</b>	<b>TIME</b>	<b>INSTRUCTOR</b>	<b>ROOM</b>
<b>VE 517 – 1</b>	<b>Tue</b>	<b>10 AM – 1PM</b>	<b>Dr. Rahul Dubey</b>	<b>103</b>