

Report

Course Outline

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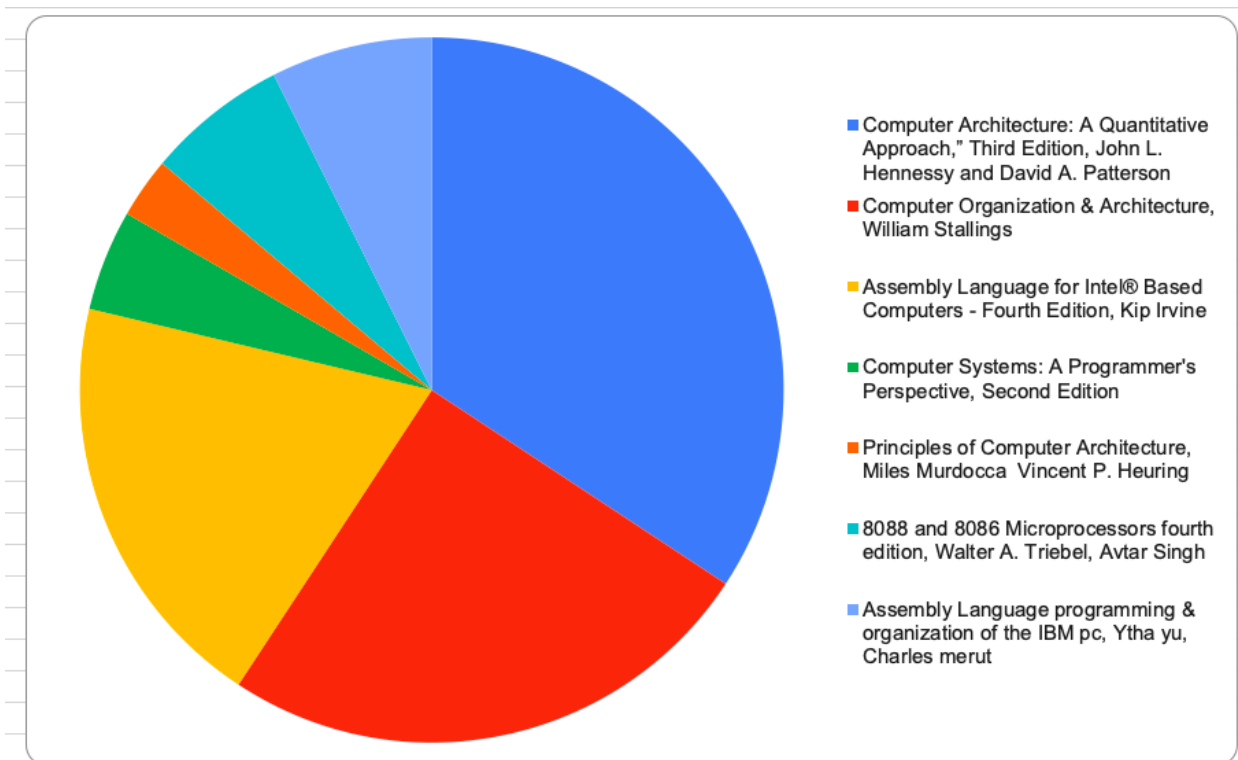
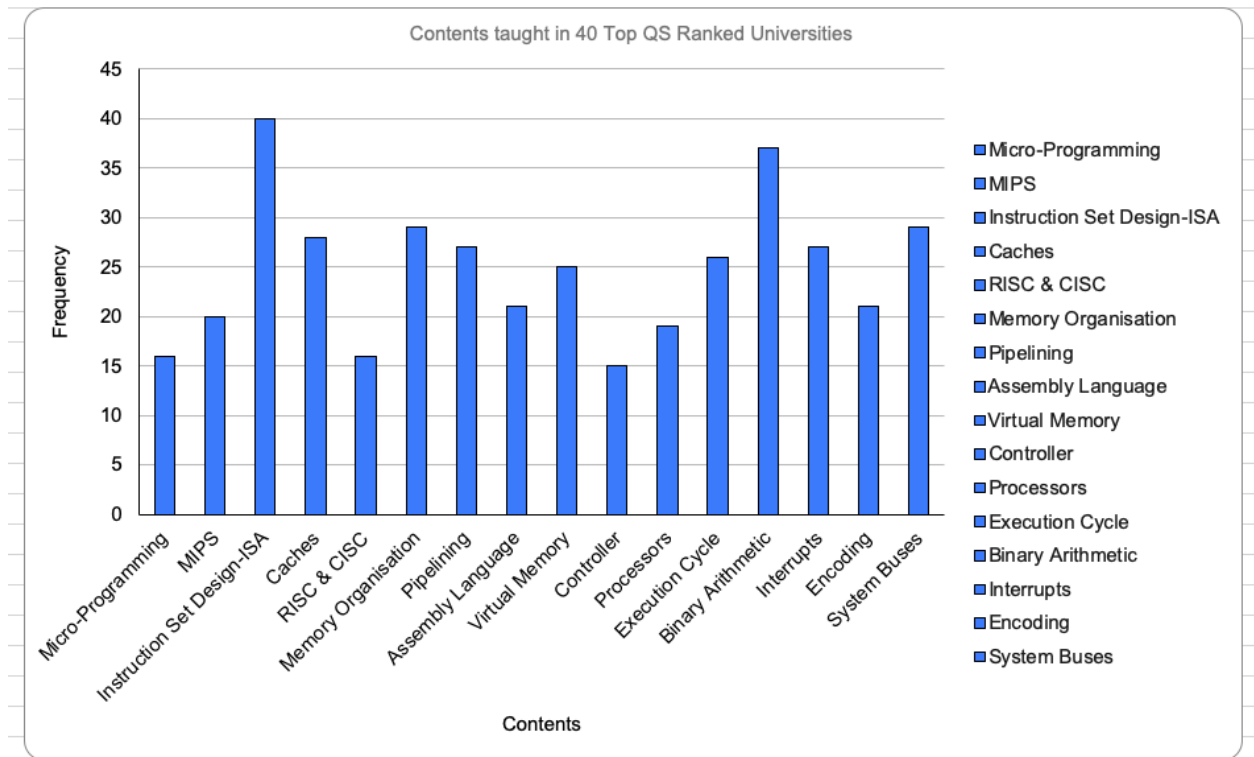
Roll numbers: K19-0342
K19-1469

- Weekly Content

Sn.	Contents	Frequency
1	Micro-Programming	16
2	MIPS	20
3	Instruction Set Design-ISA	40
4	Caches	28
5	RISC & CISC	16
6	Memory Organisation	29
7	Pipelining	27
8	Assembly Language	21
9	Virtual Memory	25
10	Controller	15
11	Processors	19
12	Execution Cycle	26
13	Binary Arithmetic	37
14	Interrupts	27
15	Encoding	21
16	System Buses	29

- Resource Material (Main Books and Reference Books)

Sn.	Book Name	Frequency	
1	Computer Architecture: A Quantitative Approach," Third Edition, John L. Hennessy and David A. Patterson	37	
2	Computer Organization & Architecture, William Stallings	27	
3	Assembly Language for Intel® Based Computers - Fourth Edition, Kip Irvine	21	Fast NUCES uses this book as main book
4	Computer Systems: A Programmer's Perspective, Second Edition	5	
5	Principles of Computer Architecture, Miles Murdocca Vincent P. Heuring	3	
6	8088 and 8086 Microprocessors fourth edition, Walter A. Triebel, Avtar Singh	7	
7	Assembly Language programming & organization of the IBM pc, Ytha yu, Charles merut	8	Fast NUCES uses this as Reference Book



Comparison with FAST NUCES and the Top QS Ranked Universities

The course of Computer Organization and Architecture in Assembly Language is taught in Fast under the course code EE229 in 3rd Semester of BSCS.

- According to the analysis of top 40 QS Ranked Universities, the Main Book taught in FAST for this course has a statistical usage of 19.4%(21/40 Universities)-Refer to the Pie Chart.
- According to the analysis of top 40 QS Ranked Universities, the Reference Book taught in FAST for this course has a statistical usage of 7.4%(8/40 Universities)-Refer to the Pie Chart.
- Fast covers almost all the topics taught in other universities. The topic of micro-programming which is taught in all 40 universities is not taught by Fast University.
- Fast carries out this course with the lab component, COAL LAB is made mandatory where students are given different challenges for Assembly Language whereas according to research not all universities offer the lab course together.
- Fast emphasis very specifically on Encoding and Machine Language Whereas only 21 out of the 40 universities teach Encoding-Refer to the Bar Chart.
- RISC and CISC are uncommon topics for the researched universities although it is a main topic at Fast University.
- ISA being the core topic of COAL is taught at every University and mostly in early weeks of the curriculum, same as Fast. Followed by binary arithmetic which is the second most taught topic and is scheduled just after ISA.
- System buses is the only topic which is taught in more than 70% Universities but not Fast University.

To conclude, Fast Nuces covers major components of COAL which is being taught in almost all the universities. The book chosen to be taught is also quite famous worldwide. The schedule is also similar to other Universities, and designed in a way that basics are taught before advanced topics which requires prior knowledge.

