

TMU Student Assessment Data Summary
 from Fall, 2014 to Fall, 2017, for the
BS in Computer & Information Sciences Degree Programs

A. Computer & Information Sciences Core Program-Level Learning Outcomes

ID:	Description:	Weight	Num. Obs.	Distribution of Observations							% at 5, 6 or 7	Avg.	95% Confidence Interval		Stat. Signif. Means?
				1	2	3	4	5	6	7			Low	High	
CIS1	Demonstrate a working knowledge of the software development cycle, its phases, and the purposes and activities of each.														
CIS1			23								87.0	5.53			NO
CIS1.1	Senior Survey	6%	3	0	0	0	0	2	0	1	100	5.67	4.36	6.98	
CIS1.6	CAFE	3%	20	0	0	0	3	10	6	1	85.0	5.25	4.91	5.59	
CIS2	Demonstrate a working knowledge of computer programming, including being able to: a. Accurately use and interpret syntax and semantics. b. Design, write, debug, and test correct programs. c. Correctly include and use common data structures.														
CIS2			44								75.0	5.16			NO
CIS2.1	Sample Program	65%	21	0	0	3	6	3	6	3	57.1	5	4.43	5.57	
CIS2.2	Senior Survey	6%	3	0	0	0	0	0	1	2	100	6.67	6.02	7.32	
CIS2.7	CAFE data	3%	20	0	0	0	2	7	8	3	90.0	5.6	5.21	5.99	
CIS3	Demonstrate a working knowledge of the major hardware components of computers, their purposes, and their relationships to other components. In particular, students should be able to: a. Demonstrate a working knowledge of PC components, b. Demonstrate an ability to troubleshoot and repair common PC hardware failures, c. Demonstrate an ability to upgrade and install new components in a PC.														
CIS3			51								88.2	5.60			NO
CIS3.1	Lab Exercise	35%	8	0	0	0	0	2	6	0	100	5.75	5.43	6.07	
CIS3.2	Senior Survey	6%	3	0	0	0	0	2	1	0	100	5.33	4.68	5.98	
CIS3.7	CAFE data	3%	32	0	0	0	4	16	9	3	87.5	5.34	5.05	5.63	
CIS3.8	PC Hardware Components Certification Exam	30%	8	0	0	0	2	2	2	2	75.0	5.5	4.67	6.33	

CIS4	Demonstrate a working knowledge of the principles underlying modern operating systems including: a. synchronization, parallel processing, resource management, deadlock prevention, memory management, virtual memory, etc., b. installation and configuration of standard PC operating systems.														
CIS4			18									88.9	5.28		NO
CIS4.2	Senior Survey	6%	3	0	0	0	0	0	2	1	100	6.33	5.68	6.98	
CIS4.7	CAFE Data	3%	9	0	0	0	0	6	2	1	100	5.44	4.97	5.91	
CIS4.8	Operating Systems Exam	65%	6	0	0	0	2	1	3	0	66.7	5.17	4.38	5.96	
CIS5	Demonstrate a working knowledge of modern layered network technologies.														
CIS5			21									90.5	5.53		NO
CIS5.2	Senior Survey	6%	3	0	0	0	0	0	3	0	100	6	6	6	
CIS5.7	CAFE Data	3%	12	0	1	0	0	6	3	2	91.7	5.33	4.59	6.07	
CIS5.8	Networking Concepts Exam	65%	6	0	0	0	1	2	2	1	83.3	5.5	4.66	6.34	
CIS6	Demonstrate a working knowledge of web development by designing and creating complex web sites.														
CIS6			57									84.2	5.18		NO
CIS6.1	Sample Webpage	35%	23	0	0	0	4	13	6	0	82.6	5.09	4.82	5.36	
CIS6.2	Senior Survey	6%	2	0	0	0	0	1	1	0	100	5.5	4.52	6.48	
CIS6.7	CAFE Data	3%	23	0	1	0	2	11	6	3	87.0	5.30	4.85	5.75	
CIS6.8	Web Design Project	30%	9	0	0	1	1	3	3	1	77.8	5.22	4.43	6.01	

B. Computer Science Emphasis Program-Level Learning Outcomes

ID:	Description:	Weight	Num. Obs.	Distribution of Observations							% at 5, 6 or 7	Avg.	95% Confidence Interval		Stat. Signif. Means?
				1	2	3	4	5	6	7			Low	High	
CISCS1	Discuss the structure and design of computer circuitry, including ALU, CPU control, datapath, cache, memory, registers, busses, interrupts, etc.														
CISCS1			40								77.5	5.33			YES
CISCS1.2	Senior Survey	7%	1	0	0	0	0	0	0	1	100	7	7	7	
CISCS1.11	CAFE Data	3%	15	0	0	0	0	6	4	5	100	5.93	5.48	6.38	
CISCS1.12	Computer Architecture Exam	42%	11	0	0	0	1	3	4	3	90.9	5.82	5.24	6.40	
CISCS1.13	ETS MFT Computer Sci. - Computer Organization, Architecture, & OS	23%	13	4	0	0	4	0	5	0	38.5	3.85	2.68	5.02	
CISCS2	Display knowledge of widely used algorithms by being able to: a. Analyze and classify algorithms and their underlying data structures b. Define and use common computer science algorithms and related data structures for efficiently searching, sorting, and merging data, and processing stacks, queues, trees, graphs, etc.														
CISCS2			33								66.7	4.45			YES
CISCS2.1	Algorithm Comprehension	35%	7	0	0	0	2	4	0	1	71.4	5	4.26	5.74	
CISCS2.2	Senior Survey	6%	1	0	0	0	0	0	0	1	100	7	7	7	
CISCS2.7	CAFE Data	3%	12	0	0	1	0	7	3	1	91.7	5.25	4.70	5.80	
CISCS2.9	ETS MFT Computer Sci. - Algorithms, Theory, & Computer Math	30%	13	4	4	0	0	0	5	0	38.5	3.23	1.97	4.49	

CISCS3	Demonstrate knowledge of computer programming languages by being able to: a. Accurately discuss the history and development of computer programming languages b. Correctly define and use terminology, issues, and tools related to programming languages and their design, such as: i. Parameter passing methods, strongly and weakly typed languages, etc. ii. Bachus-Naur Form, FSA, PDA, Turing Machines, etc. iii. Compiler construction theory.														
CISCS3			25								84.0	5.20			NO
CISCS3.1	Language Programs	65%	13	0	0	0	3	5	4	1	76.9	5.23	4.73	5.73	
CISCS3.3	Senior Survey	6%	1	0	0	0	0	1	0	0	100	5	5	5	
CISCS3.8	CAFE Data	3%	11	0	0	1	0	8	2	0	90.9	5	4.54	5.46	
CISCS4	Show an overall grasp of the field of Computer Science by being able to: a. Integrate topics and subjects within the field. b. Interpret and use current academic research. c. Speak and write effectively about ethical and moral issues related to the field.														
CISCS4			29								65.5	4.75			NO
CISCS4.1	Computer Science Current Issue Paper	35%	5	0	0	0	2	1	2	0	60.0	5	4.12	5.88	
CISCS4.2	Senior Survey	6%	1	0	0	0	0	0	0	1	100	7	7	7	
CISCS4.7	CAFE Data	3%	10	0	0	0	0	5	4	1	100	5.6	5.17	6.03	
CISCS4.8	ETS MFT Computer Sci. - (COMPLETE EXAM)	30%	13	0	8	0	0	0	0	5	38.5	3.92	2.54	5.30	

C. Information Systems Emphasis Program-Level Learning Outcomes

ID:	Description:	Weight	Num. Obs.	Distribution of Observations							% at 5, 6 or 7	Avg.	95% Confidence Interval		Stat. Signif. Means?
				1	2	3	4	5	6	7			Low	High	
CISIS2	Demonstrate an ability to use industry standard applications such as spreadsheets, databases, presentation tools, etc. to solve business problems.														
CISIS2			333								78.7	5.75			YES
CISIS2.1	Excel Presentation	22%	111	1	0	5	17	13	29	46	79.3	5.81	5.56	6.06	
CISIS2.2	Access Project	22%	112	0	3	7	15	15	21	51	77.7	5.76	5.49	6.03	
CISIS2.8	CAFE Data	3%	110	0	3	3	17	41	37	9	79.1	5.21	5.01	5.41	
CISIS4	Demonstrate a working knowledge of the protocols and systems necessary to support a web site, as well as an ability to install and configure standard web site system software (e.g., Microsoft IIS, Apache Server, etc.).														
CISIS4			6								100	5.67			N/A
CISIS4.1	Web Server Labs and Project	65%	6	0	0	0	0	2	4	0	100	5.67	5.26	6.08	
CISIS5	Display a working knowledge of database principles and technologies by being able to: a. Describe the relational model. b. Correctly define and use data normalization techniques. c. Accurately use and interpret SQL database language syntax and semantics. d. Install, configure, and use a standard DBMS (e.g. Microsoft SQL Server, Oracle, DB2, etc.).														
CISIS5			3								100	5.67			N/A
CISIS5.6	CAFE Data	3%	3	0	0	0	0	1	2	0	100	5.67	5.02	6.32	
CISIS6	Show an overall grasp of the field of Computer Science by being able to: a. Integrate topics and subjects within the field. b. Interpret and use current academic research. c. Speak and write effectively about ethical and moral issues related to the field.														
CISIS6			2								100	6			N/A
CISIS6.1	Computer Science Current Issue Paper	65%	2	0	0	0	0	0	2	0	100	6	6	6	