The list of topics for M.Sc. diploma examination – COMPUTER SCIENCE
Specialty:

Software Engineering

Remark! Learning objectives that are not present in the column *Symbols of learning objective being verified* are verified during the admission process.

	Topic	Symbols of learning objective being verified
1.	SOLID code design principle	K_W4-K_W8, K_U1,K_U6,K_U10,K_U13, K_U17,K_U19,K_U24,K_K1
2.	Code smells and related refactoring	K_W4-K_W8, K_U1,K_U6, K_U10,K_U13,K_U18,K_U21, K_U24,K_K1
3.	Code metrics	K_W4-K_W8, K_U1, K_U6, K_U10, K_U13,K_U18,K_U21, K_U24,K_K1
4.	Database index structures	K_W4-K_W8, K_U1,K_U6,K_U10,K_U13, K_K1
5.	Relational join methods	K_W4-K_W8, K_U1,K_U6,K_U10,K_U13, K_K1
6.	Database benchmarking standards	K_W4-K_W8, K_U1,K_U6,K_U10,K_U13, K_K1
7.	Patterns for effective use-cases	K_W7,K_U7,K_U15, K_U22
8.	Non-functional requirements	K_W7,K_U7,K_U15,K_U23
9.	IEEE Standard 830:1998	K_W7,K_U7,K_U15
10.	Project Management with PRINCE2	K_W7, K_W10,K_U7, K_U11, K_U15
11.	Agile software development methods (eXtreme Programming, Scrum)	K_W7,K_U7,K_U15
12.	Main features of the Python language	K_W4-K_W8, K_U1,K_U6,K_U12, K_U13, K_U26,K_K1
13.	Model-View-Template in Django.	K_W4-K_W8, K_U1,K_U6,K_U12, K_U13, K_U26,K_K1
14.	Presentation layer (Silverlight, WPF, Windows Phone)	K_W4-K_W8, K_U1,K_U6,K_U12, K_U13, K_U26,K_K1
15.	Data-access (LINQ, Entity Framework, WCF RIA Services)	K_W4-K_W8, K_U1,K_U6,K_U12, K_U13, K_U26,K_K1
16.	Regression analysis as an example of prediction modeling	K_W4-K_W8, K_U1,K_U9,K_U12, K_U13
17.	Evaluation of classification knowledge	K_W4-K_W8, K_U1,K_U9,K_U12, K_U13
18.	Overview of clustering algorithms	K_W4-K_W8, K_U1,K_U9,K_U12, K_U13, K_K1
19.	Design by Contract	K_W4-K_W8, K_U1,K_U6,K_U10,K_U13, K_U17-K_U18, K_U24, K_U26,K_K1

20.	Test quality measures	K_W4-K_W8, K_U1,K_U6,K_U10,K_U13, K_U17-K_U18, K_U24, K_U26,K_K1
21.	Service-Oriented Architecture	K_W4-K_W8, K_U1,K_U6,K_U10,K_U13, K_U17-K_U18, K_U24, K_U26,K_K1
22.	Evaluation of Software Architecture	K_W4-K_W8, K_ K_W4-K_W8, K_U1,K_U6,K_U10,K_U13, K_U17-K_U18, K_U24, K_U26,K_K1, K_K4
23.	Component-Based Architecture	K_W4-K_W8, K_U1,K_U6,K_U10,K_U13, K_U17-K_U18, K_U24, K_U26,K_K1
24.	Legislation important for IT systems in Administration	K_W4-K_W8, K_U1,K_U9,K_U12, K_U13,K_K1
25.	Risk management in IT in Administration	K_W4-K_W8, K_U1,K_U9,K_U12, K_U13,K_K1, K_K4
26.	Quality management systems based on ISO 9001:2000	K_W4, K_W5, K_W12, K_U1, K_U4,K_U8,K_U12, K_U13, K_U24, K_K4
27.	Software measurement (GQM, types of measures, measurement scales, etc.)	K_W4, K_W5, K_W12, K_U1, K_U4,K_U8,K_U12, K_U13, K_U24, K_K4
28.	Empirical SE paradigm and methods	K_W3, K_W4, K_W5, K_U1, K_U4,K_U8,K_U12, K_U13, K_U24, K_K9