TECHNICAL UNIVERSITY OF GABROVO
FACULTY OF MECHANICAL AND PRECISION ENGINEERING

Endorsed with Academic Council resolution
Record № 5 dated 29.01.2013

Approved by
Rector /s/

QUALIFICATION REFERENCE

Degree course: **COMPUTER DESIGN IN INDUSTRY**
Educational-qualification degree **BACHELOR**
Field of higher education **TECHNICAL SCIENCES**
Professional trend **GENERAL ENGINEERING**
Professional qualification **DESIGN - ENGINEER**

ANNOTATION

Training in Computer design in industry (CDI) is accorded with the needs of contemporary society to establish design engineers as inter-disciplinary specialists unifying knowledge and skills, means and mutually completing technologies between science, art, engineering and industrial manufacture through taking into account matters of function and design; materials and technologies, socio-ergonomic relationships, designers', managerial and ergonomic requirements and factors

VOCATIONAL PURPOSE

In the process of training and thesis project work students develop skills to do research, carry out comparative analyses of design problems and tasks; compile and set assignments, compositions, documentation and valuation of ergonomic and design projects;present graphic solutions, models and working specimen and samples which all bear witness to their abilities for creative contributions.

TRAINIGN REQUIREMENTS

Specialists in CDI should be well trained in their degree course major by acquiring broad fundamental, multi-profiled and specialized professional background.

The course curriculum includes subjects in natural sciences, design, ergonomy, plastic art, economy management and humanities. Prospective design engineers enlarge their competence in color science, theory of composition, graphic design, ergonomy, modelling and shaping, etc.

In view of the specifics of CDI as integrative professional area and in conformity with the world practice, there is no narrow specialization in a concrete product area. All successful graduates take the educational-qualification degree of Bachelor design-engineer.

AREAS OF PROFESSIONAL REALIZATION

Practical realization of graduates in Computer Design in Industry is effected in designing machines , devices, work places, occupational, interior and production medium, textile products and clothing, spatial design of shops, boutiques, exhibition halls, visual communications. The broad profiled qualification of design engineers is a prerequisite for successful appointments in positions both in home and foreign companies.

Endorsed with Faculty Council resolution, Record № 10 dated 12.12.2012.

Department Chair /s/ Dean /s/

T E C H N I C A L U N I V E R S I T Y O F G A B R O V O
FACULTY OF MECHANICAL AND PRECISION ENGINEERING

Endorsed with Academic Council resolution
Record № 5 dated 29.01.2013 .

Approved by
Rector /s/

Updated with Academic Council resolution
Record № 5 dated 12.12.2013 and № 6 dated 03.02.2015

C U R R I C U L U M

Degree course: **COMPUTER DESIGN IN INDUSTRY**
Academic degree: **BACHELOR**
Higher education area: **TECHNICAL SCIENCES**
Professional trend: **GENERAL ENGINEERING**
Professional qualification: **DESIGN - ENGINEER**
Form of training: **FULL-TIME**
Duration of training: **4 /FOUR/ YEARS**

№	SUBJECTS TAUGHT	FORMS OF ASSESSMENT **E - EXAMINATION CA – CONTINUOUS ASSESSMENT**	COURSE-WORK	WORKLOAD IN NUMBER OF ACADEMIC HOURS				WEEKLY DISTRIBUTION	TYPE OF SUBJECT	ECTS CREDITS
				LECT-URES	SEMINAR CLASSES	LABORATORY CLASSES	TOTAL	L + SC + LC		
1	2	3	4	5	6	7	8	9	10	11
	First Semester									
1.	Mathematics	E		30	30	0	60	2+2+0	C	5/2.3
2.	Information Technologies	E		15	0	30	45	1+0+2	C	4/1.7
3.	Drawing, part 1	E		30	0	30	60	2+0+2	C	6/2.3
4.	Engineering Graphics, part 1	CA	CW	15	0	30	45	1+0+2	C	5/1.7
5.	Engineering Materials	E		30	0	30	60	2+0+2	C	6/2.3
6.	Placement			0	0	30	30	0+0+2	C	1/1
7.	Foreign Language			0	30	0	30	0+2+0	E	3/1.1
8.	Physical Education			0	(30)	0	(30)	(0+2+0)	E	(3/1.1)
	First year, first semester	***4E 1CA***	***1CW***	***120***	***60***	***150***	***330***	***8+4+10=22***		***30/12.4***

1	2	3	4	5	6	7	8	9	10	11
	Second Semester									
9.	Drawing, part 2	E		30	0	30	60	2+0+2	C	5/2.3
10.	Industrial Chemistry	E		30	0	30	60	2+0+2	C	5/2.3
11.	Kinetics	E	CW	30	30	0	60	2+2+0	C	6/2.3
12.	Fundamental Studies of Shape Categories	E		30	0	30	60	2+0+2	C	6/2.3
13.	Engineering Graphics, part 2	CA	CW	0	0	30	30	0+0+2	C	4/1.1
14.	Practical Classes			0	0	30	30	0+0+2	C	1/1
15.	Foreign Language	CA		0	30	0	30	0+2+0	E	3/1.1
16.	Physical Education			0	(30)	0	(30)	(0+2+0)	E	(3/1.1)
	First year, second semester	***4E 2CA***	***2CW***	***120***	***60***	***150***	***330***	***8+4+10=22***		***30/12.4***
	Third Semester									
17.	Color Studies	E		30	0	15	45	2+0+1	C	4/1.7
18.	Applied Mechanics	E		30	0	30	60	2+0+2	C	5/2.3
19.	Machine Elements	E	CW	45	0	30	75	3+0+2	C	7/2.8
20.	Composition Theory	E	CW	30	0	30	60	2+0+2	C	5/2.3
21.	Computer Graphics, part 1	CA		30	0	30	60	2+0+2	C	5/2.3
22.	Elective Subject	CA		30	15	0	45	2+1+0	E	4/1.7
22.1	Intellectual Property									
22.2	Industrial Marketing									
23.	Physical Education			0	(30)	0	(30)	(0+2+0)	E	(3/1.1)
24.	Foreign Language - specialized course			0	30	0	30	0+2+0	O	3/1.1
	Second year, third semester	***4E 2CA***	***2CW***	***195***	***15***	***135***	***345***	***13+1+9=23***		***30/13.1***
	Fourth Semester									
25.	Graphic Design	E		30	0	45	75	2+0+3	C	7/2.8
26.	Basic Principles of Virtual Modeling	E		15	0	30	45	1+0+2	C	4/1.7
27.	Production Technologies, part 1	E		45	0	30	75	3+0+2	C	7/2.8
28.	Fundamentals of Design Development	E	CW	30	0	30	60	2+0+2	C	6/2.3
29.	Computer Graphics, part 2	CA		30	0	30	60	2+0+2	C	6/2.3
30.	Physical Education			0	(30)	0	(30)	(0+2+0)	E	(3/1.1)
31.	Foreign Language - specialized course	CA		0	30	0	30	0+2+0	O	3/1.1
32.	Work Placement, part 1			0	0	0	(105)		C	(4/0)
	Second year, fourth semester	***4E 1CA***	***1CW***	***150***	***0***	***165***	***315***	***10+0+11=21***		***30/11.9***

1	2	3	4	5	6	7	8	9	10	11
	Fifth Semester									
33.	Theory of Perception	E		30	0	30	60	2+0+2	C	6/2.3
34.	Production Technologies, part 2	E		45	0	30	75	3+0+2	C	6/2.8
35.	Computer Graphics, part 3	E	CW	30	0	30	60	2+0+2	C	5/2.3
36.	Ergonomics	E		45	0	30	75	3+0+2	C	6/2.8
37.	Methodology of Computer Aided Design	CA		30	0	30	60	2+0+2	C	5/2.3
38.	Course Project on Subject 36	CA							C	2/0
39.	Economics of Industrial Enterprise	CA		30	15	0	45	2+1+0	O	4/1.7
	Third year, fifth semester	***4E 2CA***	***1CW***	***180***	***0***	***150***	***330***	***12+0+10=22***		***30/12.5***
	Sixth Semester									
40.	3D Computer Modeling	E		30	0	45	75	2+0+3	C	7/2.8
41.	Industrial Design	E		45	0	30	75	3+0+2	C	6/2.8
42.	Simulation and Modeling, part 1	E	CW	30	0	30	60	2+0+2	C	5/2.3
43.	Typography and Font Studies	E		30	0	30	60	2+0+2	C	5/2.3
44.	Methods of Creative Design	CA		30	0	30	60	2+0+2	C	5/2.3
45.	Course Project on Subject 40	CA							C	2/0
46.	Work Placement, part 2			0	0	0	(105)		C	(4/0)
47.	Enterprise Business Planning	CA		30	15	0	45	2+1+0	O	4/1.7
	Third year, sixth semester	***4E 2CA***	***1CW***	***165***	***0***	***165***	***330***	***11+0+11=22***		***30/12.5***
	Seventh Semester									
48.	Clothes Design	E	CW	45	0	30	75	3+0+2	C	6/2.8
49.	Computer-based Interior Space Design	E		45	0	30	75	3+0+2	C	6/2.8
50.	Simulation and Modeling, part 2	E		30	0	30	60	2+0+2	C	5/2.3
51.	Design Development, part 1 – Elective Subject	E	CW	45	0	30	75	3+0+2	E	6/2.8
51.1	Designing Yarns and Woven Fabrics									
51.2	Package Design									
52.	Elective Subject	CA		15	0	45	60	1+0+3	E	5/2.3
52.1	Computer Animation									
52.2	Multimedia Presentation Design									
53.	Course Project on Subject 50	CA							C	2/0
	Fourth year, seventh semester	***4E 2CA***	***2CW***	***180***	***0***	***165***	***345***	***12+0+11=23***		***30/13.0***

1	2	3	4	5	6	7	8	9	10	11
	Eighth Semester									
54.	Design Development, part 2 – Elective Subject	E		30	0	30	60	3+0+3	E	5/2.3
54.1	Knitwear Design									
54.2	Children's Environment Design									
55.	Advertising, Style and Use of Symbols	E		30	0	30	60	3+0+3	C	5/2.3
56.	Elective Subject	E		30	0	20	50	3+0+2	E	4/1.9
56.1	Digital Prototyping									
56.2	Digital Measuring									
57.	Safety Engineering	E		20	0	10	30	2+0+1	C	2/1
58.	Pre-graduation apprenticeship									4/0
59.	Graduation Thesis Work									10/0
	Fourth year, eighth semester	***4И***		***110***	***0***	***90***	***200***	***11+0+9 =20***		***30/7.5***
	Total for the entire course of study	***32E 12CA***	***10CW / 3CP***	***1235***	***135***	***1155***	***2525***	***86+9+80=175***		***240/95.3***

Note: The numbers quoted in column 11 under the abbreviations T / C refer to: T – total number of credits, C – credits from contact hours.

ABBREVIATIONS USED

C – compulsory subjects
E – elective subjects
O – optional subjects

SUBJECTS		WORKLOAD	
Type	Number	Periods	%
C	42	2175	86,14
E	7	350	13,86
TOTAL:		2525	100
O	4	150	5,94

Endorsed with Faculty Board resolution, Record № 10 dated 12.12.2012.

Updated with Faculty Board resolution, Record № 8 dated 04.12.2013 and Record № 1 dated 28.01.2015.

Department Chair /s/ Dean /s/