

Program Name: Computer Science Engineering
Qualification Level: Master's Level
Department: Computer Science Engineering
College: Engineering
Institution: Private Higher School of Engineer of Gafsa ESIP

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1. Program Identification and General Information

1.1. Program Main Location:

Private Higher School of Engineer / Gafsa

1.2. Branches Offering the Program:

None

1.3. Reasons for Establishing the Program:

(Economic, social, cultural, and technological reasons, and national needs and development, etc.)

Computer science Engineering Program, CSE, was established in 2013 to cover the need for specialists in Computer science engineering that is needed in all engineering organizations and companies. The establishment of this Computer science program came to serve the community and to admit students from different cities and regions of Tunisia.

1.4. Total Credit (ECTS) for Completing the Program: (180)

To obtain the diploma of national engineer is conditioned by the completion of all the modules and the obtaining of a cumulative credit of 180.

1.5. Professional Occupations/Jobs:

Computer science engineers employ their knowledge and skills in a remarkable range of worldwide industries. The graduate of the computer science Engineering Department represents a potential candidate to become one of the key elements of any design, development or manufacturing activity in the industry and the society. Graduates of the Department find good opportunities in the industrial sector to work in the following fields:

- IT project manager
- IT operations manager
- Head of an IT department
- IT division manager
- IT domain manager
- Responsible for IT production
- IT architecture project manager
- IT systems manager
- IT network manager
- IT manager
- IT production manager
- IT network administrator
- IT security administrator
- IT system administrator
- IT consultant
- IT cognitive analyst
- IT designer analyst
- IT study analyst
- IT management analyst
- Functional IT functional analyst
- IT network analyst
- Computer user assistant
- Microcomputer assistant
- Computer site assistant
- Micro-computing correspondent
- Micro-computing manager
- IT department

Many engineers work as consulting engineers; they are commissioned by other companies to provide engineering services in design, and technical advice.

2. Mission, Goals, and Learning Outcomes

2.1. Program Mission:

The mission of the computer science Engineering program is to provide each graduate with a foundation of knowledge and training in the field of Computer science engineering for developing the society through honing their ability to analyze, synthesize, and design Computer science engineering systems.

2.2. Program Goals:

The program educational objectives are to produce graduates who are able to:

- Analyze, design, implement, and maintain practical informatic and computer systems.
- Communicate effectively and work well on team-based engineering projects.
- Optimize and implement complex systems
- Implement the most recent technologies in the fields of:
 - Software Engineering and Information Systems
 - Networks and Distributed Systems
 - Embedded Systems
- Apply concepts and basics in confirming related sustainability issues.
- Pursue continued professional development.
- Participate in the development of society at the individual and collective

This is a course that stands out for its ability to keep up with technological developments and innovations in these fields, to meet the needs of the labor market in terms of qualified and directly operational professionals.

2.3. Relationship between Program Mission and Goals and the Mission and Goals of the Institution/College.

CSE Program Mission	ESIP Mission		
	Advanced learning environment	Engage in professional life	Community-based initiatives and partnerships
Provide each graduate with a foundation of knowledge and training in the field of Computer science engineering	√	√	
Developing the society through honing their ability to analyze, synthesize, and design Computer science engineering systems		√	√

CSE Program Goals	ESIP Goals		
	Quality educational programs to meet the needs of the labor market	Promote the values, belonging and moderate thought of students	Effective community initiatives that enhance the role and prestige of the ESIP
Analyze, design, implement, and maintain practical informatic and computer systems.	√		
Communicate effectively and work well on team-based engineering projects	√	√	√
Implement the most recent technologies in the fields of: - Software Engineering and Information Systems - Networks and Distributed Systems - Embedded Systems - Engineering for Finance - Intelligent Systems and Decision Engineering - Image Engineering.		√	√
Apply concepts and basics in confirming related sustainability issues		√	√
Pursue continued professional development	√		√
Participate in the development of society at the individual and collective		√	√

CS Program Goals	Computer Science department Goals			
	Prepare qualified graduate engineers	Establish high quality programs	Conducting innovative scientific research	Contribute effectively to the development of society
Analyze, design, implement, and maintain practical Computer science and manufacturing systems	√	√	√	
Communicate effectively and work well on team-based engineering projects	√		√	
Succeed in manufacturing, thermal and Computer science engineering technology positions	√			√
Apply concepts and basics in confirming related sustainability issues	√	√	√	√
Pursue continued professional development		√		
Participate in the development of society at the individual and collective				√

2.4. Graduate Attributes:

- Deep discipline knowledge.
- Critical thinking and problem solving.
- Teamwork and communication skills.
- Career and leadership readiness.
- Intercultural and ethical competency.
- Self-awareness of society developments

2.5. Program learning Outcomes*

Knowledge and understanding	
K1	Demonstrate basics of mathematics, humanities, science, and engineering.
K2	Aware with basics, principles, and theories related to Computer science engineering.
K3	Explore Computer science engineering contemporary issues constraints to judge and reach the optimum solutions.
Skills	
S1	Apply principles of engineering, science, and mathematics to identify, formulate, and solve complex Computer science engineering problems
S2	Apply the knowledge of Computer science engineering principles and concepts to produce solutions and designs that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
S3	Design, conduct, analyze, and evaluate practices, projects, and experiments related to Computer science engineering issues.
S4	Evaluate and analyze the performance and sustainability of designed and/or existing Computer science systems.
Values	
V1	Ability to use computer facilities to resolve Computer science engineering problems
V2	Customize the use of technical and scientific engineering tools in Computer science engineering practices
V3	Justify the standards and codes in practice of design and analysis of Computer science engineering problems and ethics
V4	Persuade, present, communicate, supervise and lead effectively topics in Computer science engineering and other related disciplines

3. Curriculum

3.1. Program Study Plan

Level	Field	Module Code	Module Title	Course Code	Course Title	Course kind (F/T/O/C)	Hour/level				Credit
							Lecture	tutorial	Lab	Total	
Semester 1	Common Core	CSE110	Mathematics I	CSE111	Engineering mathematics	Fundamental	45	22.5		67.5	4.5
				CSE112	Applied probabilities	Fundamental	22.5	22.5		45	3
		CSE120	Electronic	CSE121	Analog electronic	Fundamental	22.5			22.5	1.5
				CSE122	Digital circuits	Fundamental	22.5		22.5	45	3
		CSE130	Algorithmics & programming	CSE131	Algorithm and data structure	Fundamental	22.5	22.5		45	3
				CSE132	Programming workshop I	Fundamental			45	45	3
		CSE140	Logic	CSE141	Formal logic	Fundamental	22.5	22.5		45	3
				CSE142	Algorithmics of numerical analysis	Fundamental	22.5		22.5	45	3
		LAC150	Languages and cultures I	LAC151	English I: General English	Transversal	22.5			22.5	1.5
				LAC152	French I	Transversal	22.5			22.5	1.5
LAC153	Economics and business management			Transversal	45			45	3		
Semester 2	Common Core	CSE210	Theory and Optimization	CSE211	Language theory and compilation	Fundamental	22.5	22.5		45	3
				CSE212	Graph theory and optimization	Fundamental	22.5	22.5		45	3
		CSE220	Transmission and Project	CSE221	Digital transmission	Fundamental	22.5			22.5	1.5
				CSE222	Programming project	Fundamental			22.5	22.5	1.5
		CSE230	Programming	CSE231	Web and multimedia programming	Fundamental	22.5		22.5	45	3
				CSE232	Object oriented programming	Fundamental	22.5	22.5	22.5	67.5	4.5
		CSE240	Architecture and Operating Systems	CSE241	Introduction to operating systems and the Unix environment	Fundamental	45		22.5	67.5	4.5
				CSE242	Architecture & micro processors	Fundamental	45			45	3
		LAC250	Languages and cultures I	LAC251	English II: Computer related Business English	Transversal	22.5			22.5	1.5
				LAC252	French II	Transversal	22.5			22.5	1.5
LAC253	Introduction to financial systems and banking management			Transversal	22.5	22.5		45	3		
TOTAL							540	180	180	900	60

Level	Filière	Module Code	Module Title	Course Code	Course Title	Course kind (F/T/O/C)	Volume Horaire				Credit
							Lecture	tutorial	Lab	Total	
Semester 3	Common Core	CSE310	Design Methodology I	CSE311	Processor design methodology	Fundamental	22.5	22.5		45	3
				CSE312	Software engineering I	Fundamental	22.5	22.5		45	3
		CSE320	Algorithmic Comic Concept	CSE321	Algorithm design and analysis	Fundamental	22.5	22.5		45	3
				CSE322	Database concept	Fundamental	22.5		22.5	45	3
		CSE330	Object Oriented Design and Programming	CSE331	Operating systems and concurrent programming	Fundamental	45		22.5	67.5	4.5
				CSE332	Object-oriented analysis and design	Fundamental	22.5		22.5	45	3
		CSE340	Networks and statistical methods	CSE341	Local networks	Fundamental	45		22.5	67.5	4.5
				CSE342	Statistical principles and methods	Fundamental	22.5	22.5		45	3
LAC350	Languages and Cultures III	LAC351	English III: Tips for TOEIC	Transversal	22.5			22.5	1.5		
		LAC352	French III	Transversal	22.5			22.5	1.5		
Semester 4	Common Core	CSE410	Design Methodology II	CSE411	Design and development projects	Fundamental	22.5		22.5	45	3
				CSE412	Software engineering ii	Fundamental	22.5	22.5		45	3
		CSE420	Systems	CSE421	Database management systems	Fundamental	22.5	22.5		45	3
				CSE422	Introduction to Embedded Systems	Fundamental	22.5	22.5		45	3
		CSE430	Systems management	CSE431	Operational research	Fundamental	22.5			22.5	1.5
				CSE432	Business creation and systems management	Fundamental	22.5			22.5	1.5
	LAC440	Languages and Cultures III	LAC441	English IV: Media and culture	Transversal	22.5			22.5	1.5	
			LAC442	French IV	Transversal	22.5			22.5	1.5	
	ILSI	CSE450/1	Architecture and programming	CSE451/1	Functional programming	Fundamental	22.5		22.5	45	3
				CSE452/1	Software architecture	Fundamental	22.5		22.5	45	3
	CSE460/1	Mobile and Distributed Development	CSE461/1	Development of Distributed Applications	Fundamental	22.5		22.5	45	3	
			CSE462/1	Development of mobile applications	Fundamental	22.5		22.5	45	3	
	RSR	CSE450/2	Systems and applications	CSE451/2	Real-time operating systems	Fundamental	22.5		22.5	45	3
				CSE452/2	Distributed systems and applications	Fundamental	22.5		22.5	45	3
		CSE460/2	Administration	CSE461/2	Network administration	Fundamental	22.5		22.5	45	3
				CSE462/2	Unix systems administration	Fundamental	22.5		22.5	45	3
	SLE	CSE450/3	Systems and applications	CSE451/3	Real-time operating systems	Fundamental	22.5		22.5	45	3
				CSE452/3	Distributed systems and applications	Fundamental	22.5		22.5	45	3
CSE460/3		Logic circuits & Syntheses	CSE461/3	Design of logic circuits & VHDL synthesis	Fundamental	22.5		22.5	45	3	
			CSE462/3	System on a Chip (SOC)	Fundamental	22.5		22.5	45	3	
TOTAL PAR FILIERE							540	157.5	202.5	900	60

Level	Filière	Module Code	Module Title	Course Code	Course Title	Course kind (F/T/O/C)	Volume Horaire				Credit		
							Lecture	tutorial	Lab	Total			
Semester 5	Common Core	LAC510	Languages and corporate culture	LAC511	English V: Business Communication	Transversal	15			15	1		
				LAC512	Human rights	Transversal	15			15	1		
				LAC513	Project management	Transversal	15			15	1		
	ILSI	CSE520/1	Engineering techniques	CSE521/1	Service oriented engineering	Fundamental	22.5	7.5		30	2		
				CSE522/1	Model driven engineering	Fundamental	22.5	7.5		30	2		
				CSE523/1	Big data framework & technologies	Fundamental	22.5	7.5		30	2		
				CSE531/1	Mobile device security	Fundamental	15			15	1		
		CSE530/1	Systems Security	CSE532/1	IT security	Fundamental	15			15	30	2	
				CSE533/1	Software architecture project	Fundamental				15	15	1	
				CSE541/1	Interactive decision support systems	Fundamental	22.5	7.5			30	2	
		CSE540/1	Artificial intelligence techniques	CSE542/1	Artificial intelligence	Fundamental	22.5	7.5			30	2	
				CSE543/1	Multimedia techniques	Fundamental	22.5	7.5			30	2	
				CSE551/1	Urbanization of Information Systems	Fundamental	22.5	7.5			30	2	
		CSE550/1	Complex Systems	CSE552/1	Verification of Complex Systems	Fundamental	22.5	7.5			30	2	
				CSE553/1	System modeling for big data	Fundamental	15				15	1	
				CSE561/1	Software Development in the Java Environment	Optional					15	15	1
		CSE560/1	Software development	CSE562/1	Development models (JEE / .NET)	Optional	15				15	30	2
	CSE563/1			Development of advanced web applications	Optional	22.5				22.5	45	3	
	RSR	CSE520/2	Distributed applications	CSE521/2	Middleware and distributed application building	Fundamental	22.5	7.5			30	2	
				CSE522/2	Distributed algorithmic	Fundamental	22.5	7.5			30	2	
				CSE523/2	Network engineering	Fundamental	22.5	7.5			30	2	
		CSE530/2	Applications and Security	CSE531/2	Protocols and security of IP services	Fundamental	15				15	1	
				CSE532/2	IT security	Fundamental	15				15	30	2
				CSE533/2	Distributed application development project	Fundamental	15				15	15	1
		CSE540/2	Simulations and evaluation	CSE541/2	Discrete event simulations	Fundamental	22.5	7.5			30	2	
				CSE542/2	Artificial intelligence	Fundamental	22.5	7.5			30	2	
				CSE543/2	Modeling and performance evaluation	Fundamental	22.5	7.5			30	2	
CSE550/2		Advanced networks	CSE551/2	Advanced data networks	Fundamental	22.5	7.5			30	2		
			CSE552/2	Wireless and cellular networks	Fundamental	22.5	7.5			30	2		
			CSE553/2	System and Network Programming in Linux	Fundamental					15	15	1	
CSE560/2		Virtualization and Architectures	CSE561/2	Network virtualization and SDN	Optional					15	15	1	
			CSE562/2	Cloud Virtualization and Datacenter vmware Certification	Optional	15				15	30	2	

SLE				CSE563/2	Networks and Service Oriented Architectures	Optional	22.5		22.5	45	3
	CSE520/3	Architecture and Integration	CSE521/3	Systems integration	Fundamental	22.5	7.5		30	2	
			CSE522/3	Wireless technologies for Connected Objects	Fundamental	22.5	7.5		30	2	
			CSE523/3	Iot architecture	Fundamental	22.5	7.5		30	2	
	CSE530/3	Practical project	CSE531/3	Practical project of the system	Fundamental			15	15	1	
			CSE532/3	Integration project	Fundamental			15	15	1	
			CSE533/3	Microcontroller project	Fundamental			15	15	1	
	CSE540/3	Modeling and Security	CSE541/3	IT security	Fundamental	15		15	30	2	
			CSE542/3	Artificial intelligence	Fundamental	22.5	7.5		30	2	
			CSE543/3	Modeling of real-time systems	Fundamental	15			15	1	
	CSE550/3	Codesign and Simulation	CSE551/3	Codesign	Fundamental	22.5	7.5		30	2	
			CSE552/3	Discrete event simulation	Fundamental	22.5	7.5		30	2	
			CSE553/3	Parallel programming	Fundamental	15			15	1	
	CSE560/3	Telecommunications	CSE561/3	Embedded telecommunications	Optional	15		15	30	2	
CSE562/3			Applications & platforms	Optional	22.5		22.5	45	3		
CSE563/3			Cloud computing	Optional	22.5		22.5	45	3		
Semester 6		CSE660	Project	CSE660	Traineeship	Fundamental			450	450	30
TOTAL							307.5	60	532.5	900	60

3.2. Program learning Outcomes Mapping Matrix

Align the program learning outcomes with program courses, according to the following desired levels of performance (I = Introduced P = Practiced M = Mastered)

Course code & No.	Program Learning Outcomes										
	Knowledge and understanding			Skills				Values			
	K1	K2	K3	S1	S2	S3	S4	V1	V2	V3	V4
CSE111	I				I					I	
CSE112	I				I					I	
CSE121	I			I				I			
CSE122	I				I						I
CSE131	I			I				I			
CSE132	I				I					I	I
CSE141	I			I				I			I
CSE142	I			I				I			I
LAC151	I			I				I			
LAC152	I			I				I			
LAC153	I				I					I	
CSE211	I			I							I
CSE212	I			I				I			
CSE221	I			I				I			
CSE222	I			I				I	I		
CSE231	I				I					I	
CSE232	I				I					I	
CSE241	I			I				I			
CSE242	I				I						I
LAC251	I			I				I			
LAC252	I	I			I					I	I
LAC253	I		I	I				I			I
CSE311	I	I	I		I					I	
CSE312	P		P		I					I	
CSE321	I			I				I			
CSE322	I				I						I
CSE331	P	P		I				I			
CSE332		P	P		I					I	I
CSE341	I			I				I			I
CSE342	I	I	I	I	I	I					I
LAC351	P				P						P
LAC352	I				I						I
CSE411	I			I							I
CSE412	I			I							I
CSE421	P			P				P			
CSE422	I			I				I			
CSE431		I			I				I		I

Course code & No.	Program Learning Outcomes										
	Knowledge and understanding			Skills				Values			
	K1	K2	K3	S1	S2	S3	S4	V1	V2	V3	V4
CSE432		I			I			I			I
LAC441	M				M						M
LAC442	M				M						M
CSE451/1,2,3		M			P	I			P		P
CSE452/1,2,3	M	M			M	I			M		M
CSE461/1,2,3	P	P		P	P			P			
CSE462/1,2,3	P			P							P
LAC511		M	M		M		M	M		M	
LAC512		M	M			M	M		M	M	M
LAC513		M	M		M		M		M	M	M
CSE521/1,2,3		M			M		P		M		P
CSE522/1,2,3	I			I							M
CSE523/1,2,3		M	M		M		M	M		M	
CSE531/1,2,3		M	M			M	M		M	M	M
CSE532/1,2,3		M	M		M		M		M	M	M
CSE533/1,2,3		M	M			M	M		M		M
CSE541/1,2,3		M	M		M		M		M		M
CSE542/1,2,3		M		M	M			M			
CSE543/1,2,3		M	M		M						
CSE551/1,2,3		M			M	M	M	M	M		M
CSE552/1,2,3		M			M		M	M	M		M
CSE553/1,2,3		M			M	M	M	M	M		M
CSE561/1,2,3		M	M		M	M	M		M		M
CSE562/1,2,3		M	M		M	M	M		M		M
CSE563/1,2,3		M	M		M	M	M		M		M
CSE660	M	M	M	M	M	M	M	M	M	M	M

3.3. Teaching and learning strategies to achieve program learning outcomes

	NQF Learning Domains and Learning Outcomes	Teaching Strategies	Assessment Methods
Knowledge			
K1	Demonstrate basics of mathematics, science, and engineering	Lectures Tutorials Lab demonstrations	Written exams homework Quizzes.
K2	Aware with basics, principles, and theories related to Computer science engineering science	Lectures Tutorials Projects	Written exams Homework Quizzes.
K3	Explore Computer science engineering contemporary issues constraints to judge and reach the optimum solutions.	Lectures Tutorials Projects experience	Project report Summer training report Term papers
Skills			
S1	Apply principles of engineering, science, and mathematics to identify, formulate, and solve complex Computer science engineering	Course project Lectures Assignment work	Course project report & presentation

	problems		Written exams homework
S2	Apply the knowledge of Computer science engineering principles and concepts to produce solutions and designs that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	Course project Lectures Assignment work	Course project report & presentation Written exams homework
S3	Design, conduct, analyze, and evaluate practices, projects, and experiments related to Computer science engineering issues.	Course project Lectures Assignment work	Course project report & presentation Written exams homework
S4	Evaluate and analyze the performance and sustainability of designed and/or existing Computer science systems.		
Values			
V1	Ability to use computer facilities to resolve Computer science engineering problems	Debate, whole group and small group work, discussion and research activities, lab demonstrations, projects, roleplaying, individual	Course project report & presentation Written exams homework Lab work
V2	Customize the use of technical and scientific engineering tools in Computer science engineering practices		
V3	Justify the standards and codes in practice of design and analysis of Computer science engineering problems and ethics		
V4	Persuade, present, communicate, supervise and lead effectively topics in Computer science engineering and other related disciplines		

3.4. Assessment Methods for program learning outcomes.

The department ensures that graduates achieve learning outcomes in two ways:

- First, by offering a coherent program of study that provides an opportunity for learning.
- Second, by developing and applying direct and indirect assessment techniques.

Table 1 describes how the Students Outcomes are assessed. It contains the method of assessment, data sources with which these assessment processes are carried out, and how the data is collected.

Table1: Students Outcomes assessment tools

Method of Assessment	Data sources	How Collected	Performed by	Collected by	Evaluated by
Direct Assessment	Course Assessment Report based on student marks	Paper and electronic copy	Faculty Members	Assessment Committee	Faculty/ Assessment Committee
Indirect Assessment	Student course Survey		Students	Faculty Members	
	Exit Survey		Fresh Graduates	Assessment Committee	
	Graduation Project Survey		Students	Graduation project Committee	

Direct Assessment Method

This method is performed by evaluating student works, such as midterm exams, final exam, assignments, or quizzes, in specific courses to assess the attainment of student outcomes. These specific courses are selected and approved by the department council based on the mapping of program curriculum with the Student Outcomes.

Indirect Assessment Method

The indirect assessment consists of the following tools

- Course survey
 - Graduation project survey
 - Exit survey
 - Field training survey
 - Course survey

At the end of semester, faculty is required to conduct course survey to assess the course learning objectives achievement from the students' point of view. This expresses the students' opinions about their knowledge gained in the course as expressed in terms of its outcomes.

From fall semester of the academic year 2018/2019, all faculties are required to conduct these surveys every semester in order to assess the achievement of the student outcomes in their courses. Faculty includes the course survey results in the course assessment report, where he identifies issues and suggests corrective actions or improvements to be applied according to the proposed action plan. The course assessment report is submitted to the Assessment Committee to check adequacy of the proposed actions and follow up their implementation.

- Graduation project survey

After the students present their graduation projects, they are also asked to fill in a survey to assess their project experience and outcomes. The Assessment Committee analyses the survey data and writes a report in which corrective actions may be suggested.

- Exit survey

The graduates fill in an exit survey at the end of their graduation semester. The exit survey contains questions that directly target every one of the student outcomes. At the end of the semester, the survey data is analysed by the Assessment Committee and a report identifying weaknesses is produced.

- Field-Training Survey

At the end of the summer training period (the 8th week), the field supervisor is asked to fill in a field-training survey as given. Then he sends it either by mail or fax to the college confidentially. The student is also asked to fill a survey containing questions that directly target all student outcomes.

4. Student Admission and Support:

4.1. Student Admission Requirements

The administration of Admission and Registration centrally administer admission of students to the private higher school of engineer of Gafsa.

The admission to the first year of the engineering cycle is possible for candidates holding a scientific license or equivalent (LMD regime) or the preparatory cycle or equivalent after a study of their file by the ESIP admissions committee.

The admission to the second year of the engineering cycle is open to applicants with a master's degree or successful first year master's degree in the fields of computer technology. the candidature files will be processed by the ESIP admission committee.

All admitted candidates must attend the refresher courses organized by the ESIP at the beginning of the first semester

4.2. Guidance and Orientation Programs for New Students

- A week orientation program is organized at the beginning of every academic year
- During the week orientation program, students are given an overview of the complete realm

of university life, presentation of the curriculum and program requirements by faculty staff

4.3. Student Counseling Services

The department has established an Academic Advising Unit (AAU), which is primarily responsible for overseeing the academic advising process in the department at the beginning of each academic term. The AAU allocates groups of students to each faculty member.

The procedure designed to fulfil the academic advising include:

- Each student will be assigned an academic advisor, providing academic and career advice, and general counseling.
- Each student will be required to meet his advisor regularly during his study.
- The chairperson will be available to meet the students and listen to their academic problems and concerns.

Each Faculty member will be asked to post his office hours during which a student can visit for receiving counseling and advising.

4.4. Special Support

- Assess and identify the needs of students with special needs from the day they register for the program until they graduate.
- Address the needs of disabled students at the institution by anticipating obstacles they may face and developing solutions to overcome these difficulties.
- Facilitate full participation of these students in the learning-teaching process by preparing specialized course materials, appropriate classroom settings, and individualized exam arrangements that are appropriate for the specific needs of these students.

5. Learning Resources, Facilities, and Equipment

5.1. Learning Resources.

The instructor teaching the course identifies the requirements of textbooks and other materials for teaching.

The process followed to ensure quality of learning resources is as follow:

- Each year the faculties in the department are invited to suggest new titles of books and references to library committee.
- The instructor (by personal initiative) ensures that the books are current and contents most of the topics covered in syllabus.
- Surveying the faculty to evaluate the available resources in the library from quality and quantity point of view.

5.2. Facilities and Equipment

The computer science Engineering Department uses the institution library. The current collection for the computer science Engineering books and bound periodicals is more than adequate. Students and faculty have also the access to digital library. Faculty members are requested to report in their course annual report their opinion about the available resources for library, labs and classrooms. Things need immediate actions are considered in the departmental meeting. There is a committee for laboratories.

5.3. Arrangements to Maintain a Healthy and Safe Environment

Facilities must meet health and safety requirements and adequate provision for the personal security of teaching and other staff, and students.

6. Program Quality Assurance

6.1. Program Quality Assurance System

- All teaching staff and other staff participate in self-assessments and cooperate with reporting and improvement processes in their domain of activity.
- Evaluation and planning for quality improvement are integrated into normal administrative processes.
- All quality assurance processes were applied to all parts and sections related to the program bplanning including the inputs, processes, and the outputs of the program, as well as

intensive focusing on the specified program learning outcomes.

- The existence of detailed assessments with respect to all the standards that are implemented in a consistent manner in all sections and reports on the quality of those standards.

6.2. Program Quality Monitoring Procedures

- The quality of all courses of the program will be monitored regularly through appropriate evaluation mechanisms and amended as required, with more extensive quality reviews conducted periodically.
- The student guidance committee, the Quality Assurance and Accreditation Committee, and the alumni affairs and employment committee will be created to evaluate and monitor the development of the program.
- Based on the analysis of the course reports, annual program report, and the surveys of opinions of students, updates will be achieved to enhancing curriculum delivery.
- The Program Evaluation and Review Processes are conducted as follows:
 - Courses and program are evaluated and reported annually.
 - When changes are made details of changes and the reasons are retained in course and program portfolios.
 - Quality indicators that include learning outcome measures are identified and used for all courses and the program.
 - Records of student completion rates in all courses and the program are kept and used as quality indicators.
 - Course completion, program progression and completion rates, and student course and program evaluations, are retained in central records.
 - Annual reports including quality assurance data are provided and reviewed by senior administrators and Quality Assurance and Accreditation Committee.
 - If problems are found through program evaluations appropriate action is taken to make improvements.
 - The committee of Quality Assurance and Accreditation will analyze these documents to look for the points of strength and weakness.
 - SWOT statistics are carried out at a workshop meeting attended by majority of members.