Concept paper on Associate Degree programme for both Regular and Private Students and Bridging of two years Conventional BA and BSc degree programmes with the four years BS semester based programme.

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HU Associate Degree programme – Dr Jamil Ahmad, VC HU

Preamble:

This comprehensive document has been prepared to describe the concept of Associate Degree programme that will be launched at different University's affiliated colleges from Fall Semester 2020. As Associate Degree is an undergraduate degree programme awarded after a course of 12 years schooling study (Post-Higher Secondary School Certificate, i.e. FA/FSc or equivalent) lasting two years. It is a level of qualification between higher secondary certificate and a bachelor's degree. Higher Education Department of Khyber Pakhtunkhwa province has already directed colleges to prepare for the launch of this programme from Fall Semester 2020. After launching Associate Degree program, the traditional BA/BSc and MA/MSc programmes will be stopped. Therefore, there will a vacuum, as many graduates of the BA/BSc would like to upgrade their qualifications. The concept of bridging conventional BA/BSc with the four-year degree programme has been introduced to cover the gap. This facility will provide a great opportunity to the graduate of conventional BA/BSc to upgrade their degrees and qualifications. During the bridging semester, students will be required to complete six courses as deficiency requirements to improve their skills to obtain four years bachelor degree in the programme of their interest. The graduates of the Associate Degree programme can also take benefits of the bridging concept and enroll into the four years degree programme, if they wish. In addition, the university also allows private candidates to appear in the Associate Degree programmes through examination. However, these students will be required to attend courses in the orientation centers.

Dr Jamil Ahmad,
Vice Chancellor Hazara University

1.0 Introduction to Associate Degree Programme

Associate Degree is not a new phenomenon but this concept exists in different parts of the world with different nomenclature. The duration of the Associate Degree will be two years with an option to upgrade it to a full-fledged bachelor's degree programme. Associate degree is offered to students who complete FA/FSc or equivalent qualification after 12 years of schooling. As compared to the conventional BA/BSc programme students will get more knowledge in this programme. Following the recent HEC initiative and HED directives, the university planned to launch Associate degree programmes through the affiliated colleges across the Hazara division. The programme will also be open to the private candidates. The examination of the private candidates will be conducted by the Examination Department of Hazara University.

There are two main purposes of the Associate degree programme,

    a. Cost effective/economical degree programme for those who cannot afford 4 years bachelor's degree programme,

    b. Enable students to get specialized knowledge and skills in specific discipline required by the industries.

Associate degree programme will be offered in all those disciplines in which conventional BA/BSc was offered. New market-oriented disciplines will also be added in the future. For this purpose, the university has design and developed a fast track curriculum as per HEC guidelines.

2.0 Prominent features of the Associate Degree Programme

As mentioned above that Associate degree programme will be a replacement of the BA/BSc degree. It is believed this new scheme will provide better and more education in the same duration to students than the conventional BA/BSc. The salient features of the 2 years Associate degree programme are as follows:

1. 2 year degree programme

2. Equivalent to 2 years conventional BA/BSc/BCom programmes

3. 6 shorter duration semesters of teaching in 2 year

4. Semester Duration 12 weeks (3 months), including two weeks for examinations and results

5. Minimum 60 Credit Hours

6. Normal load per semester will be Five courses and maximum **up to 6 courses.**

7. Courses will be described through Credit Hours (CrHr) system.

8. 1 (one) Theory CrHr is equivalent to 1 (one) contact hour per week in a normal semester of 15 week so a 3 CrHr course means 45 contact for the whole semester.

9. 1 Lab CrHr is equivalent to 2-3 contact hours per week

10. Each course will be given 5 contact hour per week to complete 45 contact hours per course.

11. Summer semester can also be offered (if required), however, new courses will not be offered in summer semester. Summer semester is mainly offered to cover deficiency courses.

3.0 Entry Requirement/Eligibility Criteria

The Candidate shall have Intermediate/12 years schooling/A- Level or Equivalent. Equivalency certificate will be required in case of education from some other country or system.

4.0 Degree Equivalency

The Associate Degree is equivalent to a BA/BSc (Pass) degree as far as the level of the degree is concerned.

5.0 Title of Degree

The Nomenclature of the Associate Degree 'Title' may be written on degree as "Associate Degree in Science or Art". In colleges where this degree is offered using different specialization streams, the title of the degree should include the field of specialization such as Associate Degree in (Field of Study/Discipline) e.g. Associate Degree in Botany".

6.0 System of Education (Semester)

One of the major issues that was observed with the conventional BA/BSc programme was the quality of the graduates. Therefore, it is not only to change the nomenclature but the system of education will also be changed from the traditional annual system to the semester system. The Associate degree programme will be offered through a semester system. The following three semesters will be offered each year:

i.   Fall Semester - Starts in September each year
ii. Spring Semester – start in March each year

The execution of the programme will follow the same pattern as of the 4 years bachelor's degree programme. The number of courses will be Five or above. However, the contact hours (i.e., 15 contact hrs per 1 CrHr) will be completed as per the semester standards. Three shorter semesters per year with summer off will provide flexibility to colleges while executing the entire programme.

7.0 Bridging of Associate Degree Programme with Four Years Bachelor degree

The associate degree can also be transformed into a 4 years bachelor degree programme in the relevant discipline. However, students with this qualification will need to formally apply for admission to the BS programme. Applications of students will be scrutinized as per the rules and regulations. The availability of seat at BS programme will be required to transfer any student from Associate Degree.

8.0 Curriculum and Scheme of Study of the Associate Degree programme:

Students will be required to complete 60 Credit Hours to obtain Associate Degree from Hazara University. All these 60 CrHr are grouped into different categories as shown in the below table.

Sr#	Category	Description	Credit Hours
1	University Requirements/General Education	University requirements or general education courses consist of English, communication skill, maths, computer, Islamic studies, Pakistan studies and other humanities related courses. All courses under this category are compulsory. Students will be required to complete these courses for the award of the Associate degree.	30
2	Foundation Courses	The requirements of one discipline is different from others, therefore, students of each discipline will be offered certain courses which fulfill the need of a particular discipline known as foundation courses. Foundation courses related to the fundamental concept of the concerned discipline of the Associate degree programme. (covers the breadth of the discipline).	06
3	Core Course (Major courses)	Core courses are compulsory and determine the relevance of the programme to a particular discipline. These courses are also known as Major courses. (covers the depth of the discipline)	15
4	Lab and Field Work	Associate Degree is an important qualification to prepare graduates for the job market. Therefore, students will be offered two practical lab or field works depending on the discipline. The concerned college will design these courses as per the requirements and resources.	06
5	Project/Case Study/Specialized Elective Subjects	In order to train students to deal with a real world problem through research and project management techniques, students are required to complete 6 CrHr degree project during the last semester of the Associate degree programme or case study or field work. Students can opt for two Elective subjects from specialized recommended area.	03
	Total		60

8.1 Scheme of Study and Distribution of the Courses over Four semesters:

As mentioned earlier, the whole associate degree programme is divided into four (04) semesters where Five courses are offered in each semester except the final semester. Final semester is kept with minimum load for two purposes 1). Students will get time to search for job and 2). Students can clear up deficiencies of the previous semesters, if any. In case of any hardships students will be allowed to take less or more courses in a particular semester. Courses under the above categories are placed in various semesters using a logical sequence. Lab or field work equivalent to 6 CrHr is an integral part of the Associate Degree. Distribution of courses over the four semester is given in the below table. The title of the courses is not mentioned rather the category is listed so it will provide freedom to colleges to offer those courses for which facilities are available.

Code	Course Title	CrHr	Pre-Req
Year 1 Semester I			
XXX***	GenEdu/UR-I	3(3+0)	None
XXX***	GenEdu/UR-II	3(3+0)	None
XXX***	GenEdu/UR-III	3(3+0)	None
XXX***	GenEdu/UR-IV	3(3+0)	None
XXX***	GenEdu/UR-V	3(3+0)	None
Year 1 Semester II			
XXX***	GenEdu/UR-VI	3(3+0)	None
XXX***	GenEdu/UR-VII	3(3+0)	None
XXX***	GenEdu/UR-VIII	3(2+1)	None
XXX***	GenEdu/UR-IX	3(3+0)	None
XXX***	GenEdu/UR-X	3(3+0)	None
Year 2 Semester III			
XXX***	Laboratory/Field Work.	3(0+3)	None
XXX***	Foundation Course-I	3(3+0)	None
XXX***	Foundation Course-II	3(3+0)	None
XXX***	Major Course-I	3(3+0)	None
XXX***	Major Course-II	3(3+0)	None
Year 2 Semester IV			
XXX***	Major Course-III	3(3+0)	None
XXX***	Major Course IV	3(3+0)	None
XXX***	Major Course V	3(3+0)	None
XXX***	Laboratory/Field Work	3(0+3)	None
XXX***	Senior Design Project /Case Study	3(0+3)	None

8.2 Academic Disciplines/Fields

Associate degree programme can be offered in following two different forms:

- General form
- Specialized form

Genera l form can be offered in Science and Art categories while specialized form can be offered in any discipline of Science or Art. Associate degree programmes in Science and Art can be called ADS and ADA respectively. Under these categories major courses will determine the branch of the Science and Art in which the degree will be awarded. Associate degree programme will be designed in various disciplines using these principles. In the initial phase Associate degree programme will be offered only in those disciplines in which the approved BS programmes exist. The colleges will be restricted to those areas/branches of sciences and art in which they were offering 2 years conventional BA/BSC programmes. In case of any new discipline, the approval of the relevant Board of Studies and Board of Faculty will be required. Examples of Associate degree programme in Science and Art groups are given in Annexure A and B, respectively.

8.3 Grading System

Since most of the colleges are not familiar with the GPA and CGPA systems, therefore, marks will be used to evaluate students' work. However, letter grade will be assigned to each course based on the absolute grading scheme used at the Hazara University. Passing marks will be 50%.

9.0 Associate Degree for Private Candidates

In order to cover the interest of those who cannot afford to take admission for regular Associate degree, the same programme will be offered to private candidates. This will be highly beneficial for students living in remote areas and especially female who are keen to get a respectful degree. However, in the initial phase the programme will be offered to private candidates in those subjects that don't require any lab work.

The following structure will be used for private candidates:

Four examinations will be conducted in 2 year to offer 20 subjects:

- Examination 1: Six subjects
- Examination 2: Six Subjects
- Examination 3: Six Subjects
- Examination 4: Two Subjects and Report/Viva.

Specialized study center will be established in colleges, schools and on private basis to offer counseling to students who are registered for Associate degree as private candidates. Teaching staff in the specialized study center will be trained by Hazara University with the updated course materials.

10.0 Bridging of Two years conventional BA/BSc programme with the Four years bachelor semester based BS programmes:

Two year bachelor degree provides a good opportunity for students for early entry into the job market, in order to gain practical experience. However, at the same time they may have a disadvantage under the current circumstances while using a two years bachelor in the international job markets. It is, therefore, important to develop a scheme which can provide opportunity to graduates of two years bachelor to upgrade their qualification.

The major difference between both programs is the system of education. Annual system of education is followed for BA/BSc degrees while semester system of education is followed in the case of four years BS degree programme. A lot variation can be noted in the number of subjects (courses) studies by students in the BA/BSc programmes in different regions of the country. Because of the variation and gap between 4 year bachelor degree under the semester based system and 2 year bachelor degree under the annual system, a bridging semester is proposed as per the HEC guidelines. This will be a foundation semester for students who opt to upgrade their 2 year bachelor with 4 years bachelor degree programme. The bridging semester is mainly used to cover the academic deficiency of a student who is entering to the 5th semester of the BS programme. The following courses are required to be completed in the bridging semester. The concept is shown in the diagram below.

1. English
2. Basic Mathematics
3. Management Skills or a course from Social Science
4. Computing
5. At least two courses related to the discipline, for example, BS in Mathematics will need to cover two foundation courses of mathematics during the bridging semester.

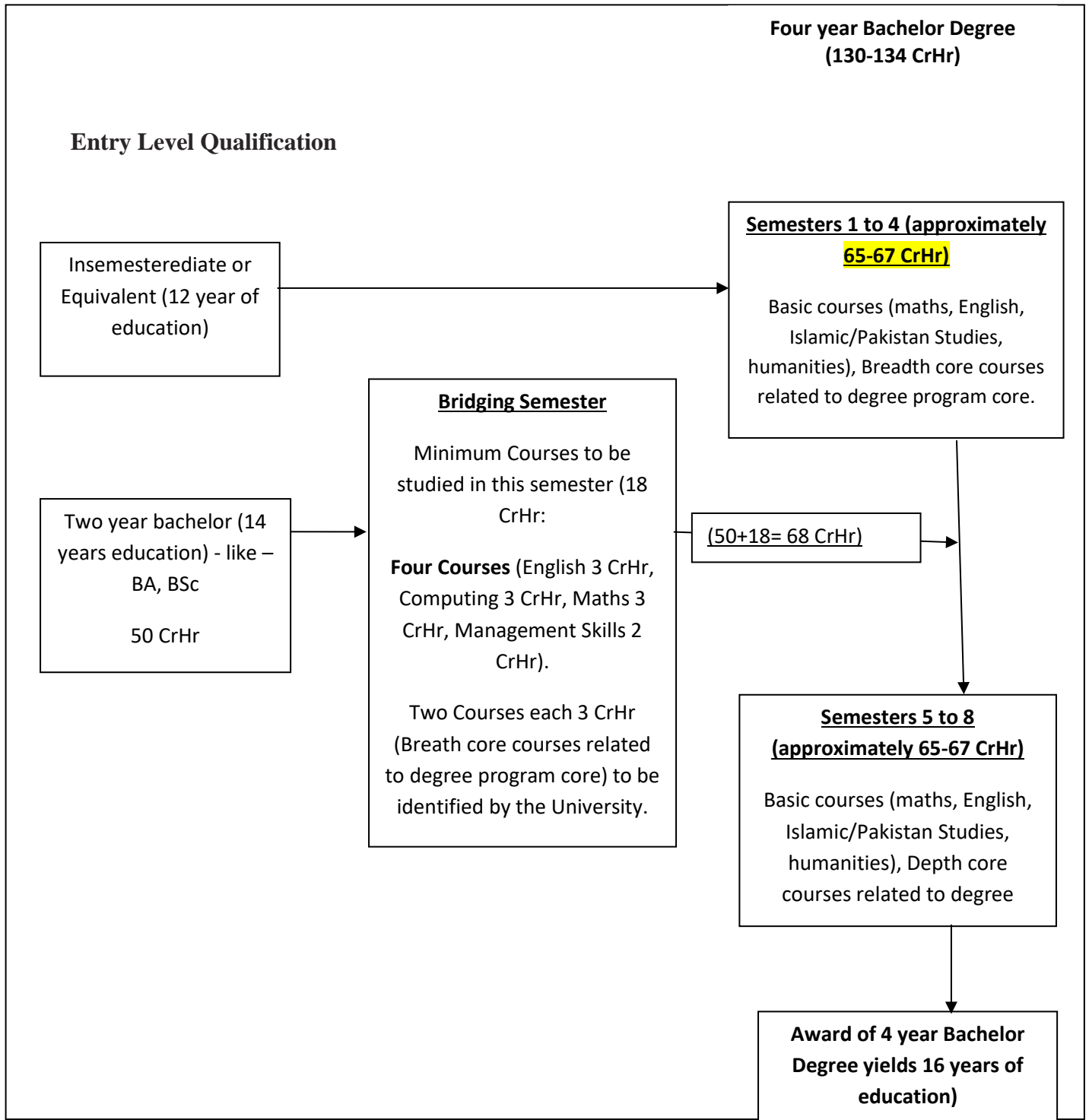**Course contents are given in Annexure C.**

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┌─────────────────────────────────────────────────────────────────────────────┐
│                                              Four year Bachelor Degree        │
│                                                 (130-134 CrHr)                │
│                                                                               │
│   Entry Level Qualification                                                   │
│                                                                               │
│                                              ┌──────────────────────────────┐ │
│                                              │ Semesters 1 to 4 (approximately│ │
│  ┌──────────────────────┐                    │        65-67 CrHr)           │ │
│  │ Insemesterediate or  │                    │                              │ │
│  │ Equivalent (12 year of│──────────────────▶│ Basic courses (maths, English,│ │
│  │     education)       │                    │ Islamic/Pakistan Studies,    │ │
│  └──────────────────────┘                    │ humanities), Breadth core    │ │
│                                              │ courses related to degree    │ │
│                          ┌─────────────────┐ │ program core.                │ │
│                          │ Bridging Semester│ └──────────────────────────────┘ │
│                          │                 │              │                   │
│                          │ Minimum Courses │              │                   │
│                          │ to be studied in│              ▼                   │
│  ┌──────────────────────┐│ this semester(18│ ┌──────────────┐                 │
│  │ Two year bachelor (14││      CrHr:      │ │(50+18= 68 CrHr)│────────▶        │
│  │ years education)- like│─▶│                 │ └──────────────┘                 │
│  │    – BA, BSc         ││ Four Courses    │                                  │
│  │                      ││ (English 3 CrHr,│                                  │
│  │     50 CrHr          ││ Computing 3 CrHr│              ▼                   │
│  └──────────────────────┘│ Maths 3 CrHr,   │ ┌──────────────────────────────┐ │
│                          │ Management Skills│ │      Semesters 5 to 8        │ │
│                          │   2 CrHr).      │ │  (approximately 65-67 CrHr)  │ │
│                          │                 │ │                              │ │
│                          │ Two Courses each│ │ Basic courses (maths, English,│ │
│                          │ 3 CrHr (Breath  │ │ Islamic/Pakistan Studies,    │ │
│                          │ core courses    │ │ humanities), Depth core      │ │
│                          │ related to degree│ │ courses related to degree    │ │
│                          │ program core) to│ └──────────────────────────────┘ │
│                          │ be identified by│              │                   │
│                          │ the University. │              ▼                   │
│                          └─────────────────┘ ┌──────────────────────────────┐ │
│                                              │  Award of 4 year Bachelor    │ │
│                                              │  Degree yields 16 years of   │ │
│                                              │        education)            │ │
│                                              └──────────────────────────────┘ │
└─────────────────────────────────────────────────────────────────────────────┘
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Figure A: The overall concept of bridging semester

10.1 Completion of 130+ CrHr for the award of BS four years degree:

Requirements for BS Existing requirement – for 8 semesters of BS program:

Total Credits Hour = 130-135*

- Major: Core + Elective = 78-81
- University Requirements = 25 (including English, Islamic and Pakistan studies, Computing, Math, Social Science).
- Outside Department Requirement = 24

* total no. of CrHr may vary from programme to programme.

A. Credit given for BSc degree (two year) –   50 CrHr
B. Bridging Semester (1st semester) after joining (18 CrHr**)
    1. English   3 CrHr
    2. Basic Math or Basic Biology (depending on
        the student courses in the two year BSc degree).   3 CrHr
    3. Computing   3 CrHr
    4. Management Skill or Social Science
        (Economic, History or Psychology)   3 CrHr
    5. Two core courses from the discipline of study
        to be proposed by the concerned Department. 6 CrHr
C. From 5th to 8th Semester after joining   65-67 CrHr

Total (A+B+C) =   133-135 CrHr

(**18 CrHr is the minimum requirement, Department may give more CrHr as deficiency/remedial course based on the entrance examination for admission to certain BS programmes, however, such deficiency CrHr should not be more than 24 CrHr).

10.2   Details on Transcript:

Students who will graduate after completing the above requirement will be issued a transcript showing the following details:

1. 50 CrHr as transfer from BA/BSc degree
2. Bridging Semester as Zero Semester or Foundation Semester
3. 5th to 8th Semester covered from the relevant program

10.3   Calculation of CGPA:

CGPA will be calculated based on the courses studied in the University including courses studied during the bridging semester. No weightage will be given to BA/BSc marks in the calculation of the CGPA for the overall degree programme.

10.4 Admission Cycle and Semester of Intake

Academic programmes where a single intake in the academic year is admitted will offer this scheme in Fall semester, (i.e 2nd semester of the academic year) each year. Students who are admitted in Fall semester will complete bridging semester during the spring semester each year so they can be integrated in the subsequent fall semester without any difficulty.

10.5 Extra Deficiency Course work (if any):

Extra deficiency courses can be offered, if required. In case any department offers extra deficiency courses to weaker students will not be counted toward GPA or CGPA. The deficiency courses should be graded as 'pass' and/or 'fail'. These courses will also be offered during bridging semester provided the courses load is not more than 21 CrHr.

11.0 Associate Degrees in Science Group - ADS

This section presents the scheme of studies of the Associate Degree under science group. As mentioned before, the whole programme is divided into four semesters as per the structure shown below. However, in case of any hardships the number of courses per semester can be altered. A flexible scheme of study is designed for the ADS programme to facilitate both colleges and students to choose courses of their own interest. Recently HEC has issued new guidelines about undergrad studies in Pakistan including Associate Degree. Though the guidelines don't list courses but HU will try to adopt the proposed format where around 10-12 courses (36 CrHr) will be offered from the General education/University Requirements.

The ADS programme will start with three different forms:

1. Associate Degree in Science (ADS) – general science discipline in two streams.
   - Physical & Numerical Sciences (pre-engineering stream)
   - Biological Sciences (pre-medical stream)
2. Associate Degree in specialized discipline of the Science, i.e. Associate Degree in Chemistry, Botany, Computing, etc. Though the framework for the curriculum of specialization stream is also given in this document but at this stage the university encourages colleges to start with general streams only.

11.1 Courses under various Categories:

The whole scheme is divided into three major parts and a project, which are as follows. Both categories 1 & 2 will be offered to all ADS students whether they are registered for general or specialized form of the degree.

     i.   General education requirements
    ii.   Foundation courses
   iii.   Major
   iv.   Project/Case study and Lab work for ADS Students only

i. General Education or University Requirements:

The general education requirements (also known as university requirements) is divided into two parts which are explained below along with the list of courses:

A. Compulsory General Education requirements:

The following courses must be completed by each student registered for the ADS (i.e., students registered for ADS:

C. Code	Course title	CrHr	Pre-requisite
ENG100	*English –I (Comprehension)	3(3+0)	None
ENG102	*English-II (Communication Skills)	3(3+0)	ENG100
ENG201	*English III (Academic Reading & Writing)	3(3+0)	ENG102
PS100	*Pakistan Studies	3(3+0)	None
ISL100	*Islamic Studies	3(3+0)	None
CSC100	*Introduction to Computing	3(3+0)	None
MATH100	*Fundamental of Mathematic	3(3+0)	None

B. General Education Requirements - Electives:

Three courses will be completed from the following list as part of General Education.

C. Code	Course title	CrHr	Pre-requisite
PSY100	Psychology	3(3+0)	None
SOC100	Sociology	3(3+0)	None
MGT100	Principles of Management	3(3+0)	None
HRM100	Human Resources Management	3(3+0)	None
PH100	Introduction to Logic	3(3+0)	None
PH200	Introduction to Philosophy	3(3+0)	None
STAT200	Fundamental of Statistics	3(3+0)	None
HUM200	Professional Ethics	3(3+0)	None
BUS200	Introduction to Business	3(3+0)	None
MGT200	Organizational Theory and Behavior	3(3+0)	None
HUM201	Social Work and Human Behavior	3(3+0)	None
BUS250	Financial Accounting	3(3+0)	None
HUM300	Human Rights and Citizenship	3(3+0)	None
RMS300	Research Methodology	3(3+0)	None
MGT400	Entrepreneurship	3(3+0)	None

ii. Foundation Courses:

Students will be required to take two courses from this category which are listed below:.

Stream #1:- Applied Sciences (Physics, Maths, Computer and Statistics):

The following foundation Courses (compulsory courses) will be offered to all student who are enrolled in this stream, i.e., Applied Sciences.

Code	Title	CrHr
MATH101	Calculus – I	3(3+0)
MATH108	Basic Differential Equations	3(3+0)

Stream #2:- Biological/Chemical Sciences:

The following foundation Courses (compulsory courses) will be offered to all student who are enrolled in this stream, i.e., Biological Sciences.

Code	Title	CrHr
PHY200	*Human Physiology	3(3+0)
BIO200	*Cell Biology	3(3+0)

iii. List of Major Courses:

Students will be required to choose any of the following combinations:

Applied Science (Physics, Maths, Computer and Statistics)

General ADS under Applied Science (Physics, Maths, Computer and Statistics):

Code	Title	CrHr
MATH211	Linear Algebra	3(3+0)
STAT206	Probability and Statistics	3(3+0)
PHY101	Introductory Mechanics	3(3+0)
CS102	Programming Fundamentals	3(2+1)

Mathematics and Statistics:

Code	Title	CrHr
MATH271	Ordinary Differential Equations	3(3+0)
MATH311	Linear Algebra	3(3+0)
STAT211	Basic Statistical Inference	3 (3+0)
STAT206	Probability and Statistics	3(3+0)

Mathematics and Physics:

Code	Title	CrHr
MATH271	Ordinary Differential Equations	3(3+0)
MATH211	Linear Algebra	3(3+0)

Code	Title	CrHr
PHY101	Introductory Mechanics	3(3+0)
PHY203	Introductory Electronics	3(3+0)

Computing and Mathematics:

Code	Title	CrHr
MATH271	Ordinary Differential Equations	3(3+0)
MATH211	Linear Algebra	3(3+0)
CS102	Programming Fundamentals	3(2+1)
CS204	Computing Tools	3(2+1)

Computing and Physics:

Code	Title	CrHr
PHY101	Introductory Mechanics	3(3+0)
CS102	Programming Fundamentals	3(2+1)
CS204	Computing Tools	3(2+1)
PHY203	Introductory Electronics	3(3+0)

Major Courses under the Biological Science:

General ADS under Biological Science:

Code	Title	CrHr
CHEM102	General Chemistry I	3(3+0)
BOT100	Botany I	3(3+0)
ZOO100	Zoology I	3(3+0)
PHY100	Human Physiology	3(3+0)
BIO100	Cell Biology	3(3+0)

Students may opt for any of the combination under the Biological Science group:

Chemistry and Botany:

Code	Title	CrHr
CHEM102	General Chemistry I	3(3+0)
CHEM103	General Chemistry II	3(3+0)
BOT100	Botany I	3(3+0)
BOT102	Botany II	3(3+0)

Botany and Zoology:

Code	Title	CrHr
BOT100	Botany I	3(3+0)
BOT102	Botany II	3(3+0)
ZOO100	Zoology I	3(3+0)
ZOO102	Zoology II	3(3+0)

Biochemistry and Microbiology:

Code	Title	CrHr
CHEM236	Basic Biochemistry I	3(3+0)
CHEM237	Basic Biochemistry II	3(3+0)
BTGE100	Fundamentals of Genetics	3(3+0)
BTGE103	Fundamental of Microbiology	3(3+0)

iv. Project/Case Study and Lab Work for ADS

Students will be required to complete a project equivalent to one course in the last semester of the ADS. This segment of the ADS can be replaced with one course in case any College cannot offer project because of unavailability of resources. However, Colleges will be required to give special courses which offer/give students practical knowledge in field of their interest. The following are the recommended area from where courses will be offered:

a. Entrepreneurship
b. Job placements
c. Industrial Internships
d. Community work

Students enrolled in ADS programme will be required to complete two Lab or field works courses (for AD students mainly) deigned by the College as per the requirement of the degree.

a. LAB100   Laboratory – I 3 CrHr
b. LAB100   Laboratory – II   3 CrHr

12.0 Associate Degree Programme in Art Group – ADA

This section presents the scheme of studies of the Associate Degree under Arts group. As mentioned before, the whole programme is divided into four semesters as per the structure shown below. However, in case of any hardships the number of courses per semester can be altered. A flexible scheme of study is also designed for the ADA programme to facilitate both colleges and students to choose courses of their own interest. As mentioned in earlier that HEC has issued new guidelines about undergrad studies in Pakistan including Associate Degree. Though the HEC guidelines don't list courses but HU will try to adopt the proposed format where around 10 courses (30 CrHr) will be offered from the General education/University Requirements.

The ADA programme will be offered with three different forms:

1. Associate Degree in Art (ADA) – general Art discipline in two streams
2. Associate Degree in specialized discipline of the Art, i.e. Associate Degree in Business, Economics, etc. Though the framework for the curriculum of specialization stream is also given in this document but at this stage the university encourages colleges to start with general stream only.

12.1   Courses under various Categories:

The whole scheme of study is divided into three major parts and a project/Case Study, which are as follows. Both categories i & ii will be offered to all ADA students whether they are registered for general or specialized form of the degree.

- i.   General education requirements
- ii.   Foundation courses
- iii. Major
- iv.   Project/Case study

i. General Education or University Requirements:

The general education requirements (also known as university requirements) is divided into two parts which are explained below along with the list of courses:

A. Compulsory General Education requirements:

The following courses must be completed by all students registered for the ADA (i.e., students registered for ADA:

C. Code	Course title	CrHr	Pre-requisite
ENG100	*English –I (Comprehension)	3(3+0)	None
ENG102	*English-II (Communication Skills)	3(3+0)	ENG100
ENG201	*English III (Academic Reading & Writing)	3(3+0)	ENG102
PS100	*Pakistan Studies	3(3+0)	None
ISL100	*Islamic Studies	3(3+ 0)	None
CSC100	*Introduction to Computing	3(3+0)	None
MATH100	*Fundamental of Mathematic	3(3+0)	None

B. General Education Requirements - Electives:

Three courses will be completed from the following list as part of General Education.

C. Code	Course title	CrHr	Pre-requisite
PSY100	Psychology	3(3+0)	None
SOC100	Sociology	3(3+0)	None
MGT100	Principles of Management	3(3+0)	None
HRM100	Human Resources Management	3(3+0)	None
PH100	Introduction to Logic	3(3+0)	None
PH200	Introduction to Philosophy	3(3+0)	None
STAT200	Fundamental of Statistics	3(3+0)	None
HUM200	Professional Ethics	3(3+0)	None

BUS200	Introduction to Business	3(3+0)	None
MGT200	Organizational Theory and Behavior	3(3+0)	None
HUM201	Social Work and Human Behavior	3(3+0)	None
BUS250	Financial Accounting	3(3+0)	None
HUM260	Human Rights and Citizenship	3(3+0)	None
RMS270	Research Methodology	3(3+0)	None
MGT280	Entrepreneurship	3(3+0)	None

ii. Foundation Courses:

Students will be required to take the following two courses as shown in the below table to fulfil the requirements of foundation courses for ADA.

List of foundation Courses

C. Code	Title	CrHr
PM200	Project Management	3(3+0)
BUS200	Introduction to Business Studies	3(3+0)

iii. List of major Courses:

List of all major elective courses. Students will be required to complete five courses from the major for general ADA. ADA can also be offered in specialized discipline. ADA in specialized programme can be designed by the colleges with the consultation of the university, if required. Further, various combination can be designed using the list of courses given in below table.

C. Code	Title	CrHr
SWS221	Human Rights	3(3+0)
SWS103	Social Work and Human Behavior*	3 (3+0)
ECON212	Intermediate Microeconomics	3 (3+0)
ECON224	Intermediate Macroeconomics	3 (3+0)
JMC211	National and International Affairs	3 (3+0)
SWS222	Gender Studies	3 (3+0)
BS131	Human Resource Management	3(3+0)
BS201	Principle of Management	3 (3+0)
BS202	Principle of Accounting	3 (3+0)
BS204	Principle of Marketing	3 (3+0)
BS200	Introduction to Business	3 (3+0)
ECON250	Managerial Economics	3 (3+0)
ECON252	Issues in Pakistan's Economy	3 (3+0)
PS121	Muslim Struggle for Pakistan 1857-1947	3 (3+0)
PS223	Geography of Pakistan	3 (3+0)
PS122	Principles of Political Science	3 (3+0)
BS131	Human Resources Management	3 (3+0)
BS112	Business Ethics	3 (3+0)
BS261	Financial Accounting	3 (3+0)
ENG223	Business Communication	3 (3+0)
BS151	Business Finance	3 (3+0)
BS231	Organizational Theory and Behavior	3 (3+0)
BS241	Consumer Behavior	3 (3+0)
ECON222	Money and Banking	3 (3+0)
ECON241	Environmental Economics	3 (3+0)
ECON223	Monetary Economics	3 (3+0)
ECON242	Financial Institutions and Markets	3 (3+0)
SWS201	Pakistani Society & Culture	3 (3+0)
SWS241	Social Institutions	3 (3+0)
SWS231	Social Psychology	3 (3+0)
SWS242	Social Problems of Pakistan	3 (3+0)
PS 112	Culture and society of Pakistan	3 (3+0)
PS 114	Government and Politics in Pakistan (1947-77)	3 (3+0)
PS222	Pakistan Through the Ages (Ancient to Medieval)	3 (3+0)
PS212	Introduction to Pakistan Foreign Policy	3 (3+0)

ENG131	English Literature-Short stories, essays and novella	3 (3+0)
ENG161	Phonetics and English Phonology	3 (3+0)
ENG241	History of English Literature – Anglo-Saxon to Restoration	3 (3+0)
ENG262	Linguistics -Morphology and Syntax	3 (3+0)

iv. Project/Case Study and Practical/Field Work for ADA

Students will be required to complete a project or case study equivalent to one course in the last semester of the ADA. This segment of the ADA can be replaced with two courses in case any College cannot offer it because of resources. However, Colleges will be required to give special courses which offer/give students practical knowledge in field of their interest. The following are the recommended area from where courses will be offered:

    a. Entrepreneurship
    b. Job placements
    c. Field work
    d. Business development techniques
    e. Community work

In order to make the ADA programme more interesting for students to learn skills related to the filed of their interest, students shall be required to complete two field works deigned by the College as per the requirement of the degree. Students in some of the specialized discipline can take Lab courses instead of Field work, for example Econmics, Business studies, any other discipline where students need to studies modern and sophisticated software or hardware based solutions.

    a. FDL100   Field Work – I   3 CrHr
    b. FDL200   Field Work – II3 CrHr

Annexure A
In this Annexure two examples are given as mentioned below:

Example 1: Associate Degree under ADS for Applied Science Group (with pre-engineering stream)

Code	Course Title	CrHr	Pre-Req
Year 1 Semester I			
ISL100	Islamic Studies	3(3+0)	None
PS100	Pakistan Studies	3(3+0)	None
ENG100	English –I (Comprehension)	3(3+0)	None
CSC100	Introduction to Computing	3(2+1)	None
ENG102	English-II (Communication Skills)	3(3+0)	None
Year 1 Semester II			
MATH100	Fundamental of Mathematic	3(3+0)	None
ENG201	English III (Academic Reading & Writing)	3(3+0)	None
XXX***	Gen-Edu – Elective I	3(3+0)	None
XXX***	Gen-Edu – Elective II	3(3+0)	None
XXX***	Gen-Edu – Elective III	3(3+0)	None
Year 2 Semester III			
MATH101	Calculus – I	3(3+0)	None
MATH108	Basic Differential Equations	3(3+0)	None
MATH211	Linear Algebra	3(3+0)	None
STAT206	Probability and Statistics	3(3+0)	None
XXX***	Laboratory/Field Work	3(3+0)	None
Year 2 Semester IV			
PHY101	Introductory Mechanics	3(3+0)	None
CS102	Programming Fundamentals	3(2+1)	None
XXX***	Major Course V	3(3+0)	None
LAB200	Integrated Laboratory work	3(0+3)	None
XXX*	Senior Design Project/Case Study/One Elective Course	3(3+0)	None

Example 02: Associate Degree under ADS for Biological Science Group (with pre-Medical stream)

Code	Course Title	CrHr	Pre-Req
Year 1 Semester I			
ISL100	Islamic Studies	3(3+0)	None
PS100	Pakistan Studies	3(3+0)	None
ENG100	English –I (Comprehension)	3(3+0)	None
CSC100	Introduction to Computing	3(2+1)	None
ENG102	English-II (Communication Skills)	3(3+0)	None
Year 1 Semester II			
MATH100	Fundamental of Mathematic	3(3+0)	None
ENG201	English III (Academic Reading & Writing)	3(3+0)	None
XXX***	Gen-Edu – Elective I	3(3+0)	None
XXX***	Gen-Edu – Elective II	3(3+0)	None
XXX***	Gen-Edu – Elective III	3(3+0)	None
Year 2 Semester III			
PHY200	*Human Physiology I	3(3+0)	None
BIO200	*Cell Biology II	3(3+0)	None
CHEM236	Basic Biochemistry I	3(3+0)	None
BTGE100	Fundamentals of Genetics	3(3+0)	None
XXX***	Laboratory/Field Work	3(3+0)	None
Year 2 Semester IV			
CHEM237	Basic Biochemistry II	3(3+0)	None
BTGE103	Fundamental of Microbiology	3(3+0)	None
XXX***	Major Course V	3(3+0)	None
LAB200	Integrated Laboratory work	3(0+3)	None
XXX***	Senior Design Project /One elective Courses	3(0+3)	None

Annexure B

Example of Associate Degree under Arts Group

Code	Course Title	CrHr	Pre-Req
Year 1 Semester I			
ISL100	Islamic Studies	3(3+0)	None
PS100	Pakistan Studies	3(3+0)	None
ENG100	English –I (Comprehension)	3(3+0)	None
CSC100	Introduction to Computing	3(2+1)	None
ENG102	English-II (Communication Skills)	3(3+0)	None
Year 1 Semester II			
MATH100	Fundamental of Mathematic	3(3+0)	None
ENG201	English III (Academic Reading & Writing)	3(3+0)	None
XXX***	Gen-Edu – Elective I	3(3+0)	None
XXX***	Gen-Edu – Elective II	3(3+0)	None
XXX***	Gen-Edu – Elective III	3(3+0)	None
Year 2 Semester III			
PM200	Project Management	3(3+0)	None
BUS200	Introduction to Business Studies	3(3+0)	None
ECON250	Managerial Economics	3 (3+0)	None
ECON252	Issues in Pakistan's Economy	3 (3+0)	None
FDl100	Field Work – I	3(0+3)	None
Year 2 Semester IV			
ECON242	Financial Institutions and Markets	3 (3+0)	None
ECON241	Environmental Economics	3 (3+0)	None
ECON242	Financial Institutions and Markets	3 (3+0)	None
FDl100	Field Work – II	3(0+3)	None
XXX***	Senior Design Project /Two elective Courses	3(0+3)	None

Course Contents of the proposed courses for Bridging Semester

Course contents of the following courses (to be used in the bridging of BA.BSc with four degree programme) are given as example and course contents for other courses will be provided as per the requirement.

1. **English – (Language of Communication Skills)**
2. **Fundamental of Computing**
3. **Basic Mathematics**

ENG*** - English - Language and Communication Skills, 3 CrHr

Course Objective:

The course aims at augmenting students' command and proficiency in use of language as an effective communication tool. It will sensitize students to the dynamics, challenges, and needs of the modern world characterized by technologically advanced social, cultural, and corporate settings.

Learning Outcome of the Course:

At the end of this course, the students will be able to:

- Understand basic objective of language acquisition
- Gain linguistic command and demonstrate this command to communicate in personally effective and socially appropriate manner
- Identify and bridge communication gaps
- Exhibit enhanced understanding, knowledge and practice of personal and social skills, especially pertaining to language technicalities
- Demonstrate effective communication skills in discussions and during presentations
- Apply active listening skills, effective reading strategies, and useful study techniques and methods
- Use critical thinking, reading, and writing skills to reflect, question, evaluate, and apply preferred learning approaches
- Select, organize, and implement specific learning strategies in the chosen discipline
- Write effectively at all levels of educational objectives
- Use scholarly judgment when expressing cross-cultural comparisons and contrasts between various cultures

General Course Contents:
- Language as a Communication Tool
- Pronunciation
- Vocabulary Building
- Parts of Speech
- Punctuation
- Effective Listening
- Common Writing Problems
- Proofreading and Editing

- Summary Writing
- Paragraph Writing
- Letter Writing
- Email Writing
- Seven C's of Communication
- Communication Overview
- Nonverbal/Paraverbal/Verbal Communication
- Presentation Skills

Week	Topics
1	**Introduction Session/Language** Overview • Language as a Communication Tool • Do's and Don'ts of Language Acquisition
2	**Importance of Correct Pronunciation** • Vowels and Consonants • The International Phonetic Alphabet • Syllables and Stress Patterns
3	**Parts of Speech/Punctuation** • Parts of Speech and their Role in English Language • Punctuation Marks and their Correct Usage
4	**Listening Skills** • Importance of Listening • Process • Strategies • Barriers • Styles
5 & 6	**Common Writing Problems / Proofreading and Editing/** • Run-ons, Fragments, Comma Splice, Parallelism • Pronoun Reference, Subject-Verb Agreement • Spelling, Punctuation, capitalization, Paragraphing
7	**Summarizing/Paragraph Writing** • The gist/key ideas, Appropriate linking devices, Brevity • Difference between paraphrasing and summarizing • Topic /Concluding Sentence, Controlling Idea, Supporting Evidence
8	**Seven C's of Communication** • Application of seven C's of communication in interpersonal and professional correspondence
9	**Email Writing** • Tone and style • Context • Formatting • Etiquette

10	**Letter Writing**
	• Purpose /Types/Format/Segments
	• Applying YOU attitude and Ethical principles
	• Using positive tone and style
	• Focusing on the benefits for the reader
	• Avoiding objectionable expressions and redundancy
11	**Communication Overview**
	• Process, Needs, Modes, Models
	• Channels, Competence, Characteristics
	• Ways, Barriers, Behaviors
12 & 13	**Nonverbal/Paraverbal / Verbal Communication**
	• Components of Nonverbal Communication
	• Kinesics, Proxemics, Oculesics, Haptics, Artifacts
	• Smell, Silence, Colour, Facial Expressions, Appearance
	• Components of Paralanguage
	• Speed, Volume, Resonance, Pitch, Tone, Stress
	• Pronunciation, Articulation, Variation, Energy, Pattern
14 & 15	**Presentation Skills**
	• Types of Presentations, Types of Delivery , Delivery Techniques Stage Fright, Developing your Topic, Preparation
	• Types and Parts of Reports/ Format/Organization
Course Project (can be started from week no. 9)	**One of the following options**
	1. A documentary on any social issue (10-15 minutes)
	2. A research report on '….' (Based on research, current market survey and interviews)
	3. Educating two illiterate persons to enable them to read and write in plain language.
	4. Polishing two persons' communication skills
	5. Any other task (can be decided through discussion)

Recommended Reading/Reference Books:
1. Henry Thomas, *Better English Made Easy,* Latest Edition
2. John Langan, *College Writing Skills,* 7th Edition
3. Kitty O Locker, *Business and Administrative Communication*, 7th Edition
4. Murphy, Thomas, Hildebrandt, *Effective Business Communication* – McGraw Hill, 7th Edition
5. Rebecca E. Burnett, Technical Communication

CS*** Fundamental of Computing

Introduction

This course is intended to familiarize students with the history and evolution of the computers, hardware and software, basics of computer Networks, HTML, basic skills in word processing and presentation software and introduction to the use of internet. The course will emphasize on knowledge of application of computers to help deal with daily and social arenas, and finally deal with the social impact of computers to facilitate in office, industry and education.

Course Objectives

This course focuses on a breadth-first coverage of computer science discipline, introducing computing environments, general application software, basic computing hardware, operating systems, desktop publishing, Internet, software applications and tools and computer usage concepts; Introducing Software engineering and Information technology within the broader domain of computing, Social issues of computing.

Course Outcomes

At the completion of this course, the student will be able to:

- Identify the basic parts of a computer system.
- Identify the functions of memory and secondary storage and the differences between them.
- Implementing the basic & advanced Microsoft Office Tools: Word, Excel, Access files, Power point presentations, NIC and Networking and HTML basics.
- To handle basic scale software & hardware issues to understand the functions & architecture of the different types of hardware and software, operating systems (DOS), some simple code executing examples, and finally the implementation of simple functions.
- To know the impact of computer technology from social point of view.

General Course Contents:

History, classification, basic components, CPU, memory, peripheral devices, storage media and devices, physical and logical storage, data organization, file storage, programs and software, system software, application software, operating systems, programming languages, compilation and interpretation, problem specification, algorithms, flow chart, pseudo code, basic programming techniques, data types and declaration, header file and linkage, variables and constants, input/output, semesterination, remark, control structures, branching, conditional structures, repetition and loops, basic library functions.

Number Systems, Binary numbers, Boolean logic, History computer system, basic machine organization, Von Neumann Architecture, Algorithm definition, design, and implementation, Programming paradigms and languages, Graphical programming, Overview of Software Engineering and Information Technology, Operating system, Compiler, Computer networks and internet, Computer graphics, AI, Social and legal issues.

Weekly Plan:

Week	Topic
1:	Introduction: Student introduction, Course introduction, course contents (on-line resources if any), course scope, presentation schedule, grading schemes, weight age issues, format and pattern of Quiz/Assignment evaluation strategy, attendance policy etc (according to the concerned University rules)

	Application of Computers, Computer usage in: Homes, Education, Business, Industry & in Medical sciences.
	Lab Lab instructions, report submission formats. Login detail from network administrator. Getting information's from internet for example: Finding resistor color-coding scheme from internet. System information for saving, copying, deleting files etc.
2:	History of Computers Four generations of Computers: Abacus, Vacuum tubes, Transistors, ICs, Microprocessor revolution
	History of Computers: History of Microprocessors
	Lab Computer Hardware, Identification of internal hardware, System configuration, Hardware specs, Software specs
3:	History of Computers: History of software development
	Types of Computers: (IBM, Motorola, Macintosh, Intel) Classification of Computers: Super Computers, Mainframe Computers, Mini computers, Workstations, Microcomputers and PCs.
	Lab Example of application software and system software, Software packages etc.
4:	Basic Structure of a Computer (block diagram)
	Hardware: Registers, internal clock and clock calculations.
	Lab Example of application software and system software, Software packages. Paint etc.
5:	Hardware (contd.): Memory devices: RAM, ROM, Cache
	Hard Disk, CD ROM, Floppy Drive, ROMBIOS
	Lab Introduction to DOS Operating System: Basic commands of DOS (changing directories, creating, copying, deleting files).
6:	Hardware (contd.): Basic I/O concepts and applications. Peripheral devices.
	Hardware (contd.): Basic I/O continued.
	Lab DOS
7:	Hardware (contd.): Buses, Internal and external buses,
	Hardware (contd.): Printers, scanners, CD burners
	Lab Example of application software: Office tools, Presentation software etc.
8:	Serial ports, Parallel ports
	Expansion Slots. NIC card
	Lab Office tools: Advanced Microsoft Office tools. PowerPoint presentations & some keynotes to MS-ACCESS.
9:	Modem, Sound card
	Number Systems.
	Lab Office-tools:
10:	Number Systems.
	Number Systems.

11:	**Lab**
	Office tools:
	Software: System Software, Application Software
	Startup programs, Operating systems, origin, types (CLI, Menu driven, GUI).
	Lab
	Office-tools:
12:	Introduction to program functions and their implementations, basic library functions. Conditional statements. Programming Languages, Utility programs Software, Basic Library functions
	Different type of languages, Compilation and interpretation. Software
	Lab
	Office-tools:
13:	Algorithm, flowchart, and pseudo codes. Data type and their compatibility issues.
	Capabilities of Operating systems, Structure of a simple programming language (C)
	Lab
	Simple functions implementations.
14:	Task switching, Multitasking Software.
	Syntax and runtime error, logical errors. Header files and linkage, variable and constants, arrays, statement assignments and declaration. Repetition and loops, Control structure, branching structure.
	Lab
	Simple functions implementations.
15:	Social impact of Computer age: Computer in office, industry and education (contd.) Profile: Microsoft and Bill Gates, Jim Clark, Steven Jobs.
	Contemporary Computing: Computer crimes, AI, sabotage, viruses, theft
	Lab: Open Discussions on Various Application Packages.

Recommended Text/Reference books (Book #1 can be used as text book)

1. "Computers" by Larry Long & Nancy Long, latest edition or 12th edition (check the web monthly for the updates: www.prenhall.com/long.
2. Brian Williams and Stacey Sawyer, "Using Information Technology," Seventh Edition, 2007, McGraw-Hill, ISBN: 0072260718.
3. William Stallings, "Computer Organization and Architecture: Designing for Performance," Seventh Edition, 2006, Prentice Hall, ISBN: 0131856448.

Course Objective:

The course aims at augmenting students' command and proficiency in mathematics. The course will provide students with sufficient knowledge to apply basic mathematics concepts during their bachelor studies and in future.

Outcome of the Course:

At the end of the course student will be able:

1. To create a good foundation of mathematics which are essential for a graduate.
2. To create a good understanding about the importance of mathematics for a university graduates and research activities.
3. To understand various mathematical tools

General Course Contents:

Real Numbers, Properties, Real Line, Sets, Exponents and Radicals, Laws of Exponents, Algebraic Operations, Fractional Expressions, Parallel and Perpendicular lines, Distance Formula, Quadratic Inequalities, Graphs, Circles, Functions, Value of the function, Mathematical Modeling, Trigonometric, Functions, Periodicity, Trigonometric Formulas and Application

Week	Topics
1	Real Numbers, Properties, Real Line, Sets, Intervals, Mode/Absolute, Distance between, numbers
2	Exponents and Radicals, Laws of Exponents
3	Algebraic Operations, Factoring Formulas, Fractional Expressions
4	Equations, Quadratic Equations, Linear Inequalities
5	Cartesian Plane, Slopes, Equations of Straight line
6	Parallel and Perpendicular lines, Distance Formula, Circles
7	Quadratic Inequalities
8	Graphing, Parabolas, Functions, Value of the function, Types of Functions, Piece-Wise Defined Functions
9	Sketching
10	Mathematical Modeling
11	Combining Functions
12	Shifting and Scaling
13	Trigonometric Functions, Periodicity
14	Trigonometric Formulas and Application

Text and Reference Books:

1. Calculus by Thomas,11th Edition
2. Calculus and Analytic Geometry 7th edition by Howard Anton