

CURRICULUM OF
BS (HEALTH ECONOMICS & MANAGEMENT)
(PROPOSED)
(2021)



HEALTH SERVICES ACADEMY
GOVERNMENT OF PAKISTAN
Ministry of National Health Services, Regulation & Coordination
Islamabad

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HSA VISION

To strengthen the capacity of public health professionals by offering excellence in teaching, research, service and policy advice.

HSA MISSION

To be a nationally and internationally recognised center of excellence in Public Health, contributing to the health and well-being of the People of Pakistan and around the world.

HSA MOTTO

“Spirit of Free Inquiry”

Message from the Vice Chancellor

The Health Services Academy (HSA) in 2018 became is the first Degree Awarding Institute (DAI) of Public Health Sciences in Pakistan. It was established as an in-service training institution in 1988 by the Ministry of Health. However, in 2002 HSA was granted status of an autonomous institution under the Ministry of Health. After the 18th amendment HSA was placed under the Ministry of National Health Services Regulation & Coordination. Since its beginning HSA has been striving to excel in meeting human resources needs of Public Health. Over the years HSA has succeeded in establishing itself as an institute of higher learning and research in niche areas of New Public Health.

In 1996 HSA launched its Master's in Public Health (MPH) program to train direly needed future health managers in Pakistan. This one year degree program was upgraded into a two year Master of Science in Public Health (MSPH) programme in 2006. This was a key initiative of HSA to align its academic with international standards. In addition to the new two year MSPH degree programme a three year Extended MSPH was launched in 2008. An Evening MSPH Programme was introduced in 2013. In addition to Public Health degree programmes at Masters Level a Post Graduate Diploma in Medical Entomology & Disease Vector Control was introduced in 2009. This was followed Master of Science degree in Medical Entomology and Disease Vector Control in the year 2012. In 2010 a new Master of Science in Health Economics & Management was launched. In 2012, a terminal degree programme in Public Health i.e. PhD was introduced by HSA for the first time in Pakistan.

Research has been accorded a high priority in HSA. The faculty and students have conducted research in different areas of Public Health. There are ongoing projects in collaboration with the university of Manitoba, Bradford, Liverpool and others.... etc.

There have been numerous publications by student and faculty in the leading journals. The Pakistan Journal of Public Health is the official journal of HSA and is in the 8th year of publication. The Annual Public Health Conference has become a regular feature of the HSA and Public Health fraternity for the last 10 years.

The Academy would like to thank its partners for their continued financial and technical support in academics, research and logistic needs. With the award of the DAI status the Health Services

Academy is now positioned to play a pivotal role and continue its journey to become a regional centre of excellence in Public Health. The HSA endeavors to continue as a national hub of public health knowledge transfer and policy advice. I am sure that with the dedication, commitment and hard work of all the faculty, officers and staff of the Academy and continued encouragement and support of the Ministry of National Health Services Regulation & Coordination, HSA would continue to lead in field of Public Health education and research in Pakistan.

(Prof. Dr Shahzad Ali Khan)

MBBS, MBA-Finance, MPH, FRSPH, PhD, FFPH
Vice Chancellor, Health Services Academy, Islamabad.

Welcome Message by the Head, Department of Health Economics and Management

It gives me great pleasure to welcome you at HSA.

Health Service Academy (HSA), established in 1988, is the marathon, leading and internationally renowned, the premier research & teaching institution of public health. The Department of Health Economics and Management at Health Services Academy was established in Fall 2013. Given the scarcity of health professionals trained in principles of management and health financing in Pakistan, the Department of Health Economics took pioneering initiative to start MSc Health Economics and Management, which is a especially designed post graduate Degree Program in collaboration with the Quaid-i-Azam University, Islamabad.

However the BS, MS, Ph.D (Health Economics & Management) programme are being offered by HSA after availing the status of Degree Awarding Institute by HEC and government of Pakistan. Today, it is the only institution that offers BS, MS, Ph.D in Health Economics & Management (HEM) in Pakistan. The Department is providing high-quality teaching and research with the help of internationally renowned permanent and visiting foreign qualified faculty and state of the art studying environment, all at an affordable cost in field of Health Economics and Management. The HSA remains committed to strengthen the capacity of public health professionals by excellence in teaching, research, and policy advice.

Health Economists would be involved in setting out the priorities for allocation in different health interventions and evaluating the success of these interventions for an informed policy making. Public health decision makers make choices among the alternatives, intervention-prevention and others, basing their decision besides using other variables on the cost-effectiveness of each of these interventions. This is more important for countries/individuals with fewer resources.

This makes Health economics a rapidly developing field with high importance worldwide and in Pakistan. HSA's BS. Health Economics and Management programme introduces students to the ways in which economic principles and concepts can be applied to the analysis of decisions by consumers, firms and governments regarding health and healthcare.

1. INTRODUCTION

1.1 Health Service Academy

The HSA was established in 1988 to provide short training courses to in-service public health practitioners & professionals. The promulgation of HSA Ordinance, 2002 gave it an autonomous status. Over the years, it has established itself as the premier research & teaching institution of public health. Today, it is the only institution that offers PhD in Public Health in Pakistan. It also offers FCPS, MS in Public Health, & MEDVC, M.Sc in Health Economics & Management & a PG Cert Human Resource in Health. The Academy remains committed to strengthen the capacity of public health professionals by excellence in teaching, research, and policy advice.

1.2 Health Economics & Management (HEM) Department

The Department of Health Economics and Management at Health Services Academy was established in Fall 2013. Given the scarcity of health professionals trained in principles of management and health financing in Pakistan, the Department of Health Economics took pioneering initiative to start MSc Health Economics and Management, which is a especially designed post graduate Degree Program in collaboration with the Quaid-i-Azam University, Islamabad. The Department is providing high-quality teaching and research with the help of internationally renowned permanent and visiting faculty in field of Health Economics and Management.

BS. Health Economics and Management is one of the major programmes being offered at HSA. Health Economics and Management deals with the relationship between health of individuals and the resources needed to sustain and improve it. The question of fulfilling infinite requirements (here the need for health, nutrition, environment etc.) with limited resources (materials, time, money, human etc.) in the best (choosing the best among alternatives-efficiency) of manners brings in the economics to health discipline, thus making Health Economics a vibrant and policy-centric subject for learning.

1.2.1 Research at HEM

The Department carries out policy-oriented research in the field of health through a multidisciplinary lens, mainly that of economics and management. Some of the areas of interests for the department include: supply and demand for health; production of health; costs of health care; government intervention in health care markets; health insurance; cost Benefit Analysis

(CBA), cost Effectiveness Analysis (CEA), Cost Utility Analysis (CUA), and public-private partnership in health service delivery.

1.2.2 Research Dissemination

Appropriate application and use of research is not conceivable without effective dissemination especially among the stakeholders. The HSA disseminates the research information carried out at the HSA through seminars, conferences and workshops, and working papers. These seminars / workshops, conferences are conducted in different cities of the country to create awareness in the stakeholders including professionals and experts from all over Pakistan in the process. The Has publication section also helps publicize the research conducted at HAS far and wide. The in-house publisher is credited by publishing world's longest running only public health journal, the Pakistan Journal of Public Health (PJPH) for the last 20 years, along with publishing Institute's reports, working papers and mimeographs.

1.2.3 Academics at HSA

The HEM department has four academic clusters, namely:

1. Public Health cluster
2. Health Economics cluster
3. Health Management Cluster
4. Social welfare / Policy cluster

The Health Economics cluster builds on the existing strength in health Economics at HSA. Due to availability of senior faculty members from leading universities of the world and the addition of adjunct faculty members from renowned international universities, HEM department initiated BS and Master of Philosophy in Health Economics and Management. The programme aims to produce professionals well-versed in the application of economics to health and healthcare. Initially an BS degree is being offered with plans to initiate a M.Phil and PhD in the field at a later time.

1.2.4 Short Courses at HSA

The purpose of offering short certificate courses is to familiarize health care professionals with basics of Health Economics & Management, Leadership development in Health Sector, Health Planning, Decision Making, Health Care Quality Management, Health Financing, Health Care costing and Budgeting. The targeted audience for this course are personnel from the (i)

Provincial and Federal Health Departments (ii) Provincial and Federal Planning Departments (iii) Cabinet and Finance Division (iv) Planning and Development Division (v) Ministry of Health (vi) Parliamentarians (vii) University and college students (viii) Media persons related to social sector development and reforms (ix) Social sector development analysts (x) International Organizations and (xi) Non-Governmental Organizations, (xii) Health insurance companies.

Along with the above-mentioned degree programmes, conducting short courses on the above four clusters are also part of the HSA agenda, especially for the Health Economics cluster. Given the need to fulfill the dearth of economic understanding of health and healthcare issues such courses can help get expertise for those who cannot enroll for the whole duration of the degree programme.

1.2.5 Vision of HEM Department

The HEM Department aspires to be the Centre of Excellence for Health Economics and Management and related disciplines through quality teaching, research and policy advice.

1.2.6 Mission of HEM Department

HSA maintaining the high standards and strength to provide education in public health in Pakistan over the last 25 years, HEM department commits to provide excellence in teaching and research through:

- i. Prepare such type of research programmes that develop the understanding of problems and creation of knowledge important to provide inputs for population, health and social policies responding to the national needs.
- ii. To create an environment where the faculty has a thirst for teaching and communicating knowledge.
- iii. Produce students with the knowledge, skills and experience that lead to personal development and an ability to apply their skills to meet the new challenges and needs of the society.
- iv. Develop international liaison with the national and international organizations / institutions to enhance education facilities to increase the academic and research perspectives and adding a global context.
- v. Reaching out to an expanded audience of learners, practitioners and policy makers through residential, distance learning and short duration education programmes as well as dissemination events utilizing a variety of learning media and technologies.

- vi. Playing a leading role in country's public health, planning and development process of health system

1.2.7 Objectives of HEM Department

During these two years of studies, the students will be familiarized with essential components of public health, health systems, fundamental principles of management, financing, and human resource management. Overall objective of this program is to develop knowledge and skills to address the managerial and administrative issues of Public and Private sector health settings at all levels. Main objectives of this program are,

- a. To strengthen local capacity to learn and apply management principles and techniques in health sector policy and management.
- b. To improve decision-making process in health services management.
- c. To prepare a pool of health managers and health economists in the country for improved health care system.
- d. To explore, assimilate and publicize knowledge through research in the field of health especially with demography and economics lens.
- e. To develop professionals with the right mix of knowledge, skills and competence in Health Economics & Management and related disciplines.
- f. Coherent and interpret the knowledge produced into evidence-based population, health and social policies and practices.

1.2.8 Core Values of HEM Department

- Freedom of inquiry
- Transparency
- Respect for diversity
- A culture of lifelong learning
- Personal and organizational integrity

1.2.9 Motto of HEM Department

Inquire, teach and serve to improve health status of people.

2. BACHELOR OF SCIENCE IN HEALTH ECONOMICS & MANAGEMENT

Health Economics & Management is a rapidly rising field which has attained much importance among the public health practitioners, governments, physicians, pharmaceutical industry, and health insurance companies, worldwide but it remains a very ignored area in Pakistan.

There is a dire need to create the discipline in the country and prepare & train professionals who can deal with these issues skillfully and diligently. Health economics provides significant flexibility and multiplicity in the application of economic tools to health and healthcare, which can be helpful in better understanding and forecasting of related issues.

In the regards of worsening public health system in Pakistan, the discipline of economics is judgmentally very important for measuring health impact of diseases and interventions; assessing the cause-effect associations between care-seeking behaviour and the precise features of persons and health systems; reckoning the statistical relationship between patient compliance and personal as well as intervention-specific characteristics.

In Health economics one can also: measure inefficient allocation of resource use by governments or individual health institutions; provide choices in public health interferences; evaluate the macroeconomic nexuses between disease, development, poverty, and globalization; and measure health systems' progress & performance and advise governments and policy makers accordingly. Keeping in view the importance of Health Economics and Management field and its worldwide applicability, the Department of Health Economics and Management was established in 2012 and has close association with the HSA.

2.1 Why Pursue BS in Health Economics and Management at HSA?

Being the seat of Public Health in Pakistan, HSA's BS in Health Economics and Management programme is designed to introduce students to the ways in which management and economic principles and ideas can be useful to the analysis of decisions by consumer(patient), hospital, firms (Pharmaceutical industry) and governments regarding health and healthcare. The programme offers training in all aspects of Health Economics and Management, meet the dreadful need for wide-ranging programme in Pakistan. Evidently defined academic teaching confirm all students have the necessary skills and knowledge to succeed in this programme regardless of the previous management and economics background. This highly specialized programme emphasize critical insight into the complex managerial and economic issues in health sector administration, and their economic impacts

of health decisions. The BS and M.phil. Health Economics & Management programme is planned to provide first-class training in the theoretical foundations and practical applications of Health Economics & Management approaches for decision-making and policy formulation in health and health care, in the framework of ethical principles of society.

The programme will enhance capability of students with the experience and skills necessary to take part in health services decision-making through training in health systems and the managerial and economic principles that lead their organization and function.

The foundation for specialisation in Health Economics and Management is built through course work in the major areas of Health Economics & Management, specifically Issues in Public Health, Economic Theory, Statistics and Econometrics, Economic Evaluation Methods, Healthcare Financing and Health Insurance, Health Policy and Planning, Healthcare Organisation, Analysis and Management, Pharmaceutical Economics, Marketing, Principal of Management and Modelling in Health Economics.

Students will gain an understanding of the key analytical arguments that are used in health economics and their normative foundations and ethical implications.

In Health economics one can also: measure inefficient allocation of resource use by governments or individual health institutions; provide choices in public health interferences; evaluate the macroeconomic nexuses between disease, development, poverty, and globalization; and measure health systems' progress & performance and advise governments and policy makers accordingly.

The students are trained:

- To assess health effect of diseases and interventions; estimating the cause-effect association between care-seeking behaviour and the specific characteristics of individuals and health systems;
- To measure the statistical relationship between patient compliance and personal as well as intervention specific attributes,
- To evaluate inefficient allocation of resource use by governments or individual health institutions; provide choices in public health interferences; evaluate the macroeconomic nexuses between disease, development, poverty, and globalization; and measure health systems' progress & performance and advise governments and policy makers accordingly

Moreover, they will obtain wide knowledge of the nature and sources of socio-economic data, recent challenges and major areas of research, and the role of observation, concept, and model building to ease pragmatic assessment.

2.2 Vision, Mission, Goals and Objectives of the BS Health Economics & Management Programme

2.2.1 Programme Vision

To produce health management specialist and health economists, expert in the application of management & economic tools to health and healthcare issues.

2.2.2 Programme Mission

To produce highly trained health economists who have deep and higher level understanding in theoretical foundations and real-world applications for health economic methods in decision-making and policy development for health and health care.

2.2.3 Programme Goals

The BS and MS Health Economics and Management (HEM) Programme supports the Academy's mission by equipping students with a comprehensive set of management knowledge and skills along with the understanding of planning, financing and economic evaluation tools and techniques for improved management of health care services.

The overall aim of this program is to enhance management capacity of the participants in order to improve the health service management of the country.

- i. To improve knowledge and skills in applying appropriate tools of economic analysis in the study and evaluation of inputs, processes and outcomes of health care and health care systems.
- ii. To familiarize students with the economic reasoning and logic utilized in health sector and health policy and health system reforms.
- iii. To train students with the essential techniques for evaluating the organisation and financing of health care systems.
- iv. To enhance and develop capacity in the decision-making process in the health sector.
- v. To solve health system problems through the application of economic techniques
- vi. To manage and economize resources for health for gaining efficiency, equity and sustainability.

- vii. To make health economic policy decisions based on evidence. Analyze health economic policy alternatives, balancing economic, financial and socioeconomic imperatives.
- viii. Demonstrate the knowledge of economics, justify the use of economic analysis in health care, and incorporate health economic analysis in their work.
- ix. Evaluate different economic approaches to priority setting in health care.
- x. Appraise the role of effective health care finance and delivery.
- xi. Communicate and advocate the role of health economic policies effectively.

2.2.4 Programme Objectives

During these two years of studies, the students will be familiarized with essential components of public health, health systems, fundamental principles of management, financing, and human resource management. Overall objective of this program is to develop knowledge and skills to address the managerial and administrative issues of Public and Private sector health settings at all levels. Main objectives of this program are,

- To strengthen local capacity to learn to apply economic principles and techniques for the analyses of issues in the health sector policy and management
- To understand nature and implications of health economics and management.
- To improve the decision making process in the health sector.
- To prepare a pool of health economists and health managers in the country for an improved health and health care system.

2.2.5 BS HEM Learning Outcomes:

After successfully completing this program students should be able to:

- Take on leadership roles in health planning, management and decision-making in health sector.
- Analyse and manage the problems being faced by the health managers in routine as well as in special circumstances.
- Apply the management functions such as planning, organizing, staffing controlling and evaluating interventions in health care settings.
- Construct budgets, undertake financial costing and cost effectiveness of healthcare services.
- Evaluate different economic approaches for better priority setting in health care.
- Appraise the role of effective health care financing and improved service delivery at all levels.

2.3 Job Prospects and Scope of BS Health Economics & Management Degree

After completion of this specialized health economic and management programme students can expect to find placement in public sector organizations, Planning Commission of Pakistan, private sector organizations including for-profit, not-for-profit, research institutions, hospitals, academic institutions, pharmaceutical companies and other development agencies. The programme provides a platform for the students to develop strong analytical skills and professional capabilities in health economic and management. After attaining the qualification, you may pursue a career in national and international health organizations both in opportunity to serve public and private sectors. Graduates may attain job in national health services and health care organizations, government departments, pharmaceutical industry, research units, and universities. Last but not the least our graduates can pursue PhD in Health management, Health Economics in foreign universities.

2.4 The BS Health Economics & Management Programme Structure

An understanding of Health Economics & Management is a vital component of education in social and health sciences and absolutely necessary for anyone interested in areas as Health Economics & Management.

BS Health Economics & Management is a four years degree program comprising of eight regular semesters. Students with degree of F.Sc. / F.A. / A. levels or equivalent are given admission in this program. An eligibility criterion is defined by university. Along with the eight regular semesters, university may offer summer sessions to provide opportunities to the students who fail or withdraw a course and those who wish to improve their grades. At the last semester (Eight semesters) the students have to present their project is essential.

This program is designed to familiarize students with the broad range of issues and situations studied by health managers and health economists and the tools they use. The curriculum starts at the very basic introductory level. As such no specific high school preparation is required, therefore students with diversified background equally fit in the program. However, an appreciation for mathematics and statistics shall prove to be useful. All Health Economics & Management undergraduate majors study a significant core of economic theory and mathematical and statistical methods and are then in a position to choose among a wide variety of higher electives.

2.5 Teaching and Learning Methods

Learning mainly takes place in interactive lectures and through group/individual learning assignments. Frequent seminars complement the student centred learning approach of the

programme. Comprehensive relevant access to literature supports the students' individual learning. State of the art library and computer labs facilitates the learning environment at HSA.

Coursework revolves around problem and case-based learning activities to develop the applicable skills required for health economics research and practice. These skills include: analytical problem formulation, assessment and analysis of economic data, and the use of decision analytic software. Emphasis will be given to identification of the key objectives and assumptions of health economics research and practice, evaluation of the relevant evidence, and methods of interpreting data and avoiding logical inconsistencies. Through the various learning activities, the student gains self-confidence and professionalism by presenting and defending their ideas and views before critical audiences, as well as actively listening to the arguments and perspectives of others.

2.6 Programme Duration, Credits and Medium of Instruction

BS Health Economics & Management is a four years degree program comprising of eight regular semesters. The seven semesters and part of eight semester are dedicated to course work, culminating in an end-of-semester examination for each semester. In the eight semester, all students present project. All semesters are followed by a semester break of at least two weeks duration. The programme consists of 130 credits, of which 127 credits are for course work (81 for core and 6 for elective courses), and 3 credit hours are for project. English is the medium of instruction and examination for the BS Health Economics & Management programme.

3. ADMISSIONS IN BS (HEALTH ECONOMICS & MANAGEMENT)

3.1.1 Entry Requirements / Eligibility Criteria

Candidates with FA/F.Sc or equivalent qualification (Certificate/ Diploma holder, Medical Technology Group etc.) or A-Levels and having at least second division, securing 45% marks in aggregate are eligible to apply.

Qualifying admission test and interview is compulsory. Candidates scoring less than 40% marks each in the test/interview will stand disqualified for admission. Candidates who have secured at least 40% in the NAT are also eligible to apply.

3.1.2 Frequency:

Admissions in BS Health Economics & Management are offered biannually.

3.1.3 Dates:

July / August, February/March

3.1.4 Merit Calculation:

$[(\text{Marks obtained in Matric or equivalent/Total Marks}) * 20] + [(\text{Marks obtained in F.Sc or equivalent/Total Marks}) * 60] + [(\text{Test/interview Marks}) * 20]$

Note: The merit of students with Diploma/ Certificate O-Levels / A-Levels is calculated on the basis of equivalence certificate issued by Inter Board Committee of Chairmen (IBCC), Islamabad.

**4. PROPOSED SCHEME OF STUDIES FOR BS (4-YEARS) HEALTH
ECONOMICS & MANAGEMENT**

DIVISION OF COURSES		
1. For All Disciplines of BS (4 Years Degree Program):	Courses	Credit Hours
Compulsory Courses (with no choice):	9*	25
General Courses (diversification courses):	8	24
Sub Total: Common Courses For all BS Disciplines	17	49
2. Specific Courses for BS Health Economics & Management (4 Years Degree Program):	Courses	Credit Hours
Foundation Courses:	8	24
Major Courses:	11 - 15	33 – 45
Optional Courses:	4 – 8	12 – 24
Sub Total: Discipline Specific Courses for BS (Health Economics & Management)	27	81
Grand Total: All Courses for BS Health Economics & Management (4 Years Degree Program):	44	130

* Each course worth 3 credit hours, except Islamic Studies/Ethics and Pakistan Studies. The two courses are of two credit hours each.

4.1 Common Courses for All Disciplines of BS (4 Years Degree Program):

4.1.1 Compulsory Courses (with no choice):

S.No.	Code	Courses Title	Credit Hours
1.	HEM -6111	Islamic Studies / Ethics	3
2.	HEM -6112	Pakistan Studies	3
3.	HEM -6113	English I	3
4.	HEM -6114	English II	3
5.	HEM -6115	English III *	2
6.	HEM -6116	English IV*	2
7.	HEM -6117	Introduction to Computer	3
8.	HEM -6118	Basic Mathematics	3
9.	HEM -6119	Intermediate Mathematics*	3
Total			25

* In lieu of English IV and Intermediate Mathematics HSA has option to offer any other (other than Health Economics & Management) or any other course.

4.1.2 General Courses (Diversification) with Choice (9) *

Student may select maximum eight (8) courses from list given below:

S.No.	Code	Courses Title	Credit Hours
1.	HEM -6211	Introduction to Sociology	3
2.	HEM -6212	Introduction to Political Science	3
3.	HEM -6213	International Relations	3
4.	HEM -6214	Life Sciences Biology	3
5.	HEM -6215	Population Dynamics	3
6.	HEM -6216	Foundation of Public Health	3
7.	HEM -6217	Introduction of Epidemiology	3
8.	HEM -6219	Principles of Psychology	3
9.	HEM -6220	Introduction of Health Databases and Software	3
10.	HEM -6221	Innovation in Health system	3
11.	HEM -6222	General Science-I (Basic Human Anatomy)	3
12.	HEM -6223	General Science- II (Basic Physiology)	3
13.	HEM -6218	Entrepreneurship in Health	3
Total (8 ×3)			24

* HSA has option to offer any diversification course depending upon the availability of teacher. Moreover, HSA may expand the list of diversification courses as per requirements.

4.2 Specific Courses for BS Health Economics & Management (4 Years Degree Program)

4.2.1 Foundation Courses: (8)

Student may select maximum eight (8) courses from list given below:

S.No.	Code	Courses	Credit Hours
1.	HEM -6311	Principal of Microeconomics	3
2.	HEM -6312	Principal of Macroeconomics	3
3.	HEM -6313	Introduction to Health Economics	3
4.	HEM -6314	Basic Statistics	3
5.	HEM -6315	Basic Econometrics	3
6.	HEM -6316	Introduction to Health Surveys	3
7.	HEM -6317	Research Methods	3
8.	HEM -6318	Principle of Management	3
9.	HEM -6319	Organizational Behavior	3
10.	HEM -6320	Comparative Health Systems Analysis	3
11.	HEM -6321	Reproductive Health	3
Total (8 ×3)			24

4.2.2 Major Courses: (11 – 15)

Student may select minimum eleven (11) and maximum fifteen (15) courses from list given below:

S.No.	Code	Course	Credit Hours
1.	HEM -6411	Microeconomics Analysis	3
2.	HEM -6412	Macroeconomics Analysis	3
3.	HEM -6413	Development Economics	3
4.	HEM -6414	Health Technology Assessment	3
5.	HEM -6415	Ethic in Healthcare	3
6.	HEM -6416	Pharmaco-economics	3
7.	HEM -6417	Quality of Healthcare	3
8.	HEM -6418	Social Health Insurance	3
9.	HEM -6419	Health Education and Communication	3
10.	HEM -6420	Healthcare Management Information System	3
11.	HEM -6421	Food Security	3
12.	HEM -6422	Nutrition and Health	3
13.	HEM -6423	Behavioral Science	3
14.	HEM -6424	Hospital Management	3
15.	HEM -6425	Applied Epidemiology – CD and NCD	3
16.	HEM -6426	Sustainable Economics	3
17.	HEM -6427	Global Health	3
18.	HEM -6428	Strategic Planning and Marketing	3
Total (11×3 - 15×3)			33 - 45

HSA has option to offer any other course(s) in lieu of these, from the list of approved optional courses.

4.2.3 Optional Courses: (4 – 8)

Student may select minimum four (4) and maximum eight (8) courses from list given below:

S.No.	Code	Course	Credit Hours
1.	HEM -6511	Health Economic Advanced	3
2.	HEM -6512	International Trade (WTO agreement for Health)	3
3.	HEM -6513	Occupational Safety & Health	3
4.	HEM -6514	Communicable and Non-Communicable Disease Control	3
5.	HEM -6515	Health Care Fiancé	3
6.	HEM -6516	Quality Management in Health Care	3
7.	HEM -6517	Marketing	3
8.	HEM -6518	Financial Management in Health	3
9.	HEM -6519	Comparative Health System	3
10.	HEM -6520	Poverty & Inequality	3
11.	HEM -6521	Leadership	3
12.	HEM -6522	Political Economy of Health	3
Total (4×3 - 8×3)			12 - 24

5. PROPOSED SEMESTER WISE SPLIT UP OF COURSES BS (4-YEARS)

HEALTH ECONOMICS & MANAGEMENT

Years	Subjects	Credit Hours	Subjects	Credit Hours
Year 1	Semester -1		Semester-2	
	English - I (C)	3	English - II (C)	3
	Islamic Studies / Ethics (C)	2	Pakistan Studies (C)	2
	Basic Mathematic (C)	3	Principal of Macroeconomics (F)	3
	Principal of Microeconomics (F)	3	Introduction to Health Economics (F)	3
	General Course – 1	3	General Course – 3	3
	General Course – 2	3	General Course – 4	3
	Total	17	Total	17
pYear 2	Semester-3		Semester-4	
	English - III (C)	3	English – IV (C)*	3
	Introduction to Computer (C)	3	Research Methods -1 (F)	3
	Intermediate Mathematics (C)	3	Basic Econometrics (F)	3
	Principal of Management (F)	3	Microeconomic Analysis (M)	3
	General Course – 5	3	General Course – 7	3
	General Course – 6	3	General Course – 8	3
	Total	18	Total	18
Year 3	Semester-5		Semester-6	
	Basic Statistics (F)	3	Quality of Health Care (M)	3
	Organizational Behavior (F)	3	Development Economics (M)	3
	Macroeconomic Analysis(M)	3	Pharmaco-economic(M)	3
	Strategic Planning and Marketing (M)	3	Health Education and Communication	3
	Sustainable Economics (M)	3	Healthcare Management Information System (M)	3
	Total	15	Total	15
Year 4	Semester-7		Semester-8	
	Nutrition Health (M)	3	Ethic in Healthcare (M)	3
	Health Technology Assessment (M)	3	Food Security (M)	3
	Social Health Insurance (M)	3	Global Health (M)	3
	Optional Course - 1**	3	Optional Course - 3**	3
	Optional Course - 2 **	3	Project/Viva	3
	Total	15	Total	15
Total Credit Hours: 130				

(C)= Compulsory Courses

(F) = Foundation Courses

Important Clarifications:

* English-IV and Intermediate Mathematics are University optional. In lieu of these two courses, university has option to offer any other (non - economics) courses such as Non-English language course, Citizenship Education and Community Engagement, Entrepreneur or any other course.

** University has option to offer research project / research thesis (worth 6 credit hours) in lieu of two optional courses. It will be evaluated by a panel of examiners, as per university rules.

The scheme of studies is divided in two blocks; first two years and last two years. The sequence of courses within each block can be changed, however courses across block cannot be changed. Moreover, the condition of pre-requisite should be carefully considered while changing the sequence of courses.

Teaching methodology given in outlines of each course is a general guideline; course instructor can deviate as per requirements. Moreover, university can expand the list of optional courses as per its requirement.

6. SEMESTER WISE SPLIT UP OF COURSES BS (4-YEARS) HEALTH ECONOMICS & MANAGEMENT

BS Health Economics & Management is a four years degree program comprising of eight regular semesters. Common courses are taught in first five semesters and specialization courses are offered in last three semesters. Semester wise split up of courses is given below:

Courses	Semesters								Total Courses
	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	
Elementary & Language Courses	3	2	3	1	–	–	–	–	9
General Courses	2	2	2	2	–	–	–	–	8
Foundation: Discipline Specific Foundation Courses	1	2	1	2	2		–	–	8
Major: Discipline Specific Core Courses	–	–	–	1	3	5	3	2	14
Opt: Specialization Elective Courses	–	–	–	–	–	–	2	2	4
Project/viva*								1	1
Total Courses	6	6	6	6	5	5	5	5	44

*Project / Viva Voce Examination is equivalent to one course. It is taken at the end of 8th semester.