



**iHE**

**INSTITUTE OF HEALTH ECONOMICS**  
**UNIVERSITY OF DHAKA**

# **CURRICULUM AND ACADEMIC RULES**

*Executive Masters in Health Economics*

From session 2023-2024



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# **SECTION 1**

## **INSTITUTION PROFILE**

### **Background**

In order to rapidly improve the health status of the people en masse, the Government of Bangladesh has been implementing a comprehensive package of reforms in the Health and Population Sector. The magnitude of health services to be devoted per person has been increased, and the measures have been proposed to drastically enhance the quality of services. Implementation of new plan requires huge amount of resources for the sector, the only way to increase the coverage and improve the quality of services is to intensively utilize the existing facilities and allocate the resources to the sectoral activities more efficiently. Increased allocative efficiency of resources requires, on the other hand, imparting training in health economics to the managers and professionals of the sector and carrying out research on health economic issues.

The Government has increasingly felt the need for training of the personnel of the sector and conducting research in health economics and started sending officials abroad to study health economics. It later became evident that the cost of overseas training of each person is so high that the government will not be able to train the required number of personnel using the small amount of funds received from the donors. In such a situation, the Ministry of Health and Family Welfare (MOHFW) approached the University of Dhaka to establish an Institute to offer post-graduate degrees and conduct training programmes in Health Economics and carry out research on health economic issues. As a result, the Institute of Health Economics (IHE) was established in the University of Dhaka in July 1998 with the financial support of the Department for International Development (DFID), and the University of Dhaka. Currently, IHE offers full range of academic programmes: B.S.S., M.S.S., M.Phil., PhD in Health Economics. Moreover, it is carrying extensive research activities in the field of Health Economics.

### **Mission**

To establish an academic entity within the University of Dhaka for teaching and training in order to build health economists, and to develop, strengthen and build up capacity of the health sector professionals, academicians, and health service managers, and for organizing and conducting practical policy- oriented research for the sector.

### **Objectives**

- To provide professional degrees in Health Economics.
- To train health sector personnel on Health Economics, Health Policy, Health Care Management, and Health Systems.

- To identify policy-relevant health economics/systems research and projects.
- To assist Government of Bangladesh in review and formulation of policies, analysis of the health systems, and advise government and semi-government organizations on health sector issues.
- To develop links with national and international agencies and organizations engaged in the development of and research for health and population sector, particularly those addressing health economics, health systems, health care management, and policy issues in order to strengthen the Institute's capacity for research and training in Health Economics.
- To undertake research and studies on health economic issues sponsored by public and private organizations independently or in collaboration with national or international organizations.

## Activities of the Institute

- To run undergraduate programs (B.S.S. in Health Economics)
- To run post graduate degree programs:
  - ✓ M.S.S. in Health Economics
  - ✓ Executive Master's in Health Economics
- To run M. Phil and Ph.D. programs
- To carry out research, provide consulting service assistance to health sector, and
- To provide ethical approval for conducting research

## Governance and Management

A Board of Governors governs the functioning of the Institute. The Board of Governors comprises of distinguished personnel from the Ministry of Health and Family Welfare, the University of Dhaka and other organizations. The Vice-Chancellor of the University chairs it.

The Academic Board of the Institute decides the overall academic policy matters. The day-to-day academic activities are carried out by the Academic Committee composed of all the faculty members, and the Co-ordination and Development Committee deals with the administrative issues. The Director of the Institute is responsible for the overall management.

## Faculty Members

The faculty members have research and teaching experiences in the fields of Health Economics, Economics, Applied Econometrics, Health Care Management and Operations Research, Public Health, Research Methods and Epidemiology. A number of guest faculty members who are mostly from different departments of the University of Dhaka, icddr, NIPSOM and Health Economics Unit of the MOHFW, are also associated with the Institute. Some visiting scholars from the reputed international universities and organizations are also invited at the institute as guest lecturer.

## SECTION 2

### SYLLABUS

#### 2.1 List of Courses for EMHE

1 <sup>st</sup> Semester
EMHE 601: Principles of Economics
EMHE 602: Biostatistics and Epidemiology
EMHE 603: Health Systems and Health Service Management
2 <sup>nd</sup> Semester
EMHE 604: Microeconomic Theory for Health Sector
EMHE 605: Economics of Health, Nutrition and Population
EMHE 606: Health Policy and Planning
3 <sup>rd</sup> Semester
EMHE 607: Hospital Management
EMHE 608: Economic Evaluation of Health Care
EMHE 609: Applied Health Econometrics <b>OR</b> , EMHE 610: Economics of Uncertainty and Health Insurance
4 <sup>th</sup> Semester
EMHE 611: Pharmacoeconomics
EMHE 612: Advanced Health Economics
EMHE 613: Health Project Design and Project Paper <b>OR</b> , EMHE 614: Research Methodology and Dissertation

## 2.2 1st Semester

### EMHE 601

### Principles of Economics

#### Microeconomics

1. **Introduction:** Definition of Economics, Positive and Normative Economics, Emergence of Economics, Efficiency and Economics, Microeconomics and Macroeconomics, Scope of Economics, Subject Matter of Economics
2. **Basic Mathematics for Economics:** Variables, Functions and Graphs, Law of Indices, Types and Solution of Equations, Limit Theorem, Simple Calculus- Differential and Integral, Maxima and Minima, and Optimization
3. **Theory of Consumer Behavior:** Utility Theory, Diamond-Water Paradox, Marginal Utility and Law of Diminishing Marginal Utility, Equi-marginal Principle, Indifference Curve Analysis, Substitution Effect and Income Effect, Derivation of Individual Demand and Market Demand Curves, Elasticity of Demand
4. **Theory of Production and Costs:** Theory of Firm-production Function and Equilibrium, Derivation of Cost Functions, Different Types of Costs- Average Costs and Marginal Costs, Short Run and Long Run, Returns to Scale and Long Run
5. **Market Structure:** Definition, Characteristics and Equilibrium of Different Market Structures

#### Macroeconomics

1. **Methods of Measuring National Income:** National Income Accounting, Methods of Measuring National Income
2. **Classical Theory and Keynesian Theory of Income Determination:** Basic Model of Income Determination, Extended Model of Income Determination, Classical Theory of Income and Employment, Keynesian Theory of Income Determination
3. Effectiveness of Monetary and Fiscal Policies for Health Sector

#### References

1. Samuelson, Paul A. and Nordhaus, William D. (2005) Economics, 18th Edition, McGraw-Hill/Irwin
2. Mankiw, N. Gregory, Principles of Economics, 4th Edition, Cengage Learning
3. Varian, Hal R. Intermediate Microeconomics
4. Dornbusch, R. and Fischer, S. Macroeconomics, McGraw Hill
5. Dowling E., Schaum's outline, Mathematics for Economics

## EMHE 602

## Biostatistics and Epidemiology

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### Biostatistics

1. **Introduction:** Uses and Scope of Biostatistics
2. **Data:** Definition, Classification, Sources of Data
3. Classification of Statistical Techniques, Measurement Scales/Levels
4. **Presenting Data:** Frequency Distribution, Tabulation of Data, Graphical presentation of Data
5. Measures of Central Tendency: Mean, Median, Mode
6. **Measures of Dispersion:** Mean Deviation, Quartile Deviation, Standard Deviation & Variance, Moments, Skewness and Kurtosis
7. Correlation and Regression Analysis
8. Index Numbers
9. Time Series Analysis
10. **Probability:** Basic Concepts, Types and Rules
11. **Distribution:** Normal, Bi-nominal, Logistic
12. **Sampling:** Sample, Census and Sampling, Sampling Techniques, Errors and Biases in Sampling, Sampling Distribution
13. Methods of Data Collection
14. **Hypothesis Testing:** Parametric and Non-parametric Tests.

### Epidemiology

1. **Introduction:** History and Basic Concepts, Approaches, Objectives, Importance
2. **Tools of Measurement:** Rate, Ratio, Proportion, Mortality Measurement, and Morbidity Measurement- Prevalence and Incidence
3. **Methods of Epidemiological Study:** Descriptive, Analytical, Experimental, Estimation of Risk-Relative Risk Ratio, Odd Ratio, Biases in Epidemiological Studies
4. Sampling for Epidemiological Study
5. **Screening:** Basic Concepts and Types, Instruments and Quality, Tools of Validity, Confounding Factors
6. Criteria for Causal Inference
7. Case Investigation
8. Term Paper



## References

1. Murry R. S., Theory & Problems of Statistics
2. Islam M. N., An Introduction to Statistics & Probability
3. Gupta S. P., Advanced Practical Statistics
4. U.S. Department of Health and Human Services, (2012), An Introduction to Applied Epidemiology and Biostatistics,  
<http://www.cdc.gov/opphss/csels/dsepd/ss1978/ss1978.pdf>
5. Park and Park, Text Book of Community Medicine
6. Hyder R. K., Text Book of Community Medicine and Health

## EMHE 603      Health Systems and Health Service Management

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### Health Systems

1. **Introduction:** Definition, Good Health Systems, Systems Concept of Hospital, Overview of Health Systems, Models of Health Systems, Systems of Health, Objective of Health Systems, Function of Health Systems, Building Blocks of Health Systems, Interaction of Building Blocks and Function, Health Systems Actors, Essential Public Health Functions
2. **Systems of Health:** Beveridge Public Model, Bismarch Mixed Model, Mixed Health Systems Syndrome
3. Development of Bangladesh Health Structure
4. **Important Issues Related to Health in Bangladesh:** Access, Coverage, Efficiency, Equity, Quality, Safety, Sustainability
5. Health Work Force
6. Procurement Policy of HNP Sector
7. Health Care Financing
8. Health Governance
9. Health Information System
10. Evaluation of Health Systems
11. Health Care Service Delivery System of Bangladesh

## Health Services Management

1. **Management:** Fundamentals of Management, Management Thought, Objective, Decision Making, Organization & Organization Structure, Delegation & Decentralization, Problems in Human Relation, Management Control Techniques
2. **Introduction to Public Health Management:** Definition, Size and Scale of Management, Public Service Organizations, Relationship Between Public Sector, Private Sector and Public Service, Context of Change in Public Health Management, Features of New Public Health Management and Its Limitation
3. **Manager Responsibilities:** Administrative Function, Health Care Marketing
4. **Managing Finance:** Management Accounting Techniques
5. **Budgeting and Allocation of Resources:** Capitation Formula, Accreditation of Facilities, Need Based Allocation of Resources
6. **Materials Management:** Elements of Materials Management, Inventory Control, Purchasing
7. **Managing Support Services:** Medical Records, Housekeeping Services, Hospital Engineering Services, Biomedical Waste Management, Ambulance Services
8. **Managing Human Resources:** The Cutting Edge of HRD, HR Accounting, HR Planning, Model Service Rules
9. **Managing Relations:** Public Relations in Hospitals
10. **Quality of Care and Services:** Modern Approach to Quality, Criteria of Quality, Total Quality Management
11. **Decentralization in the Public Sector:** Centralization and Decentralization, Importance of Decentralization, Methods, Effects, Problems and Prospect of Decentralization

## Reference

1. Tabish, S. A. (2001). Hospital and health services administration: principles and practice. Oxford University Press, USA.
2. Ministry of Health and Family Welfare; Govt. of Bangladesh, (2002), Human Resource Management in Health.
3. Government of Bangladesh, (2015), Health Bulletin
4. Wilkinson, R., Marmot, M., (2003), Social Determinants of Health: The Solid Facts, World Health Organization (<http://www.euro.who.int/document/e81384.pdf>)
5. Marmot, M. and et al. (2003), Closing the Gap in a Generation: Health equity through Action on the Social Determinants of Health, World Health Organization (Executive Summary)
6. Mathers, C. D., & Loncar, D. (2006). Projections of global mortality and burden of disease from 2002 to 2030. *PLoS medicine*, 3 (11), e442.

## 2.3 2nd Semester

### EMHE 604 Microeconomic Theory for Health Sector

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1. **Introduction:** Laissez Faire and Market Mechanism, Preference and Choice
2. **Theory of Consumer Behavior:** Utility Maximization Problem, Marshallian Theory of Demand, Indifference Curve Analysis, Comparative Statics, Demand Function, Theory of Revealed Preference, Expected Utility Theorem, Demand Function for Health Care
3. **Theory of Production and Cost:** The Production Function, Iso-Quant and Technical Efficiency, Iso-Cost, Firm's Equilibrium, Production Efficiency, Expansion Path, Cost Minimization, Cost Functions under Different Technology, Average and Marginal Costs, Factor Demand, Factor Prices
4. **Market Structure:** Perfect Competition and Allocative Efficiency, Monopoly, Monopolistic Competition, Oligopoly, Strategic Decision Making, Strategic form Games, Extensive form Games
5. **Market of Inputs:** Rent, Wage, Interest and Profit Determination
6. **Adverse Selection, Signaling, and Screening:** Information Asymmetries and Adverse Selection, Signaling, Screening
7. **The Principal-Agent Problem:** Introduction, Moral Hazard, Hidden Information, Hidden Actions and Hidden Information
8. **General Equilibrium:** Equilibrium in Exchange, Equilibrium in Competitive Market Systems, Equilibrium in Production
9. **Theories of Welfare Maximization:** Pareto Efficiency and Social Welfare Theorem, Compensation Criteria, Arrow's Theorem, Market Failures and Welfare, Role of Government

### References

1. Varian, Hal R., Microeconomic Analysis
2. Mas-Colell, Andreu, Whinston, Michael D., and Green J.R., Microeconomic Theory
3. Jehle G. A., and Reny P.J., Advanced Microeconomic Theory

## EMHE 605      Economics of Health, Nutrition and Population

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### Economics of Health Care

1. **Introduction to Health Economics:** Definition of Economics, Causes of Market Failures and Need for Health Economics. Definition of Health Economics, The Scope and Importance of Health Economics
2. **Production of Health and Demand for Health Care:** Production of Health and Demand for Health Care, Health Care as an Input into the Production of Health
3. **Theory of Consumer Behavior:** Diamond-Water Paradox, Marshallian Theory of Demand, Indifference Curve Analysis, Determinants of Demand for Health Care, Elasticity of Demand for Health Care
4. **Theory of Production and Cost of Health Care:** Production Function of Different Health Care Services, Fixed Vs. Variable Inputs, Short Run Vs. Long Run Period, Producer's Equilibrium, Derivation of Cost Curve – Total, Average, Marginal, Relationship- Average and Marginal, Short-Run And Long-Run Cost Curves, Economies of Scale And Economies of Scope
5. **Health Care Markets:** Market Structure, Perfect Competition: Characteristics of Markets and Firms, Monopoly, Monopolistic Competition, Oligopoly, Efficiency in Health Care Market
6. **Agency Relationship and Supplier Induced Demand:** Agency Relationship and Information Asymmetry, Market for Lemons, Imperfect Agent and Supplier Induced Demand, Different Models of Supplier Induced Demand
7. **Government Regulation in Health:** Market Failures and Role of Public Sector
8. Theory of Role of Non-Government Organization in Health
9. **Health Care Financing and Universal Health Coverage:** Definition of Health Care Financing, Different Methods of Health Care Financing, Concept of Universal Health Coverage
10. **Economics of Health Insurance:** Basic Theory of Health Insurance, Coinsurance, Copayments, Deductibles, Moral Hazard and Adverse Selection
11. **Macroeconomics and Health:** Investing in Health, Relationship Between Ill Health and Poverty, Health in Other Policies, Sustainable Development Goals

### Population Economics

1. **Introduction:** Economic Causes and Effects of Population Pressure
2. **Microeconomic Analysis of Some Population Issues:** Demand for Children, Son Vs Daughter Preference, Demand for Family Planning, Rural- Urban Migration (Harris-Todaro Model), Subsidy on Health Goods, Rationing of Health Goods

3. **Effects of Population Growth on Macroeconomy:** Impact on Consumption, Savings, Capital-Output Ratio, Unemployment Rate and Wage Rate
4. **Basic Theories of Population:** Malthus, Boserup, Bilsborrow, Coale and Hoover, Geertz, Theory of Cohen- Earth's Carrying Capacity
5. **Effects in Bangladesh:** Effects on Land Holding and Rural Employment, Industrial Employment and Export of Manpower
6. How to Control Population and Investing in People?

## Nutrition Economics

**Causes and Effects of Malnutrition:** Myths about Malnutrition, Reasons for Weak Commitment to Nutrition Program, Vicious Cycle of Nutrition and Malnutrition, Importance of Investment in Nutrition, Benefits and Costs of Nutrition Program

## References

1. Folland S., Goodman A.C., and Stano M., (2000), The Economics of health and health Care, Macmillan (3rd edition).
2. Culyer A.J., and Newhouse J.P., (2000), North-Holland Handbook of Health Economics, Elsevier.
3. Arrow K. (1975), Social Choice and Individual Values.
4. Jack W., (1999), Principles of Health Economics for Developing Countries, World Bank Institute.
5. Morris S., Appleby J., and Parkin D., (1983), Economic Analysis in Health Care, Lee K. and Mills A. The Economics of Health in Developing Countries; Oxford University Press.
6. McGuire A., Henderson J. and Mooney G., (1988), The Economics of Health Care: an introductory text; London, Routledge and Kegan Paul.
7. Mills A. and Gilson L. (1988), Health Economics for Developing Countries: A Survival Kit.
8. Zweifel P. and Breyer F., (1997), Health Economics, O.U.P.
9. Jacob P., (2004), The Economics of Health and Medical Care, Jones and Bartlett Learning.
10. Coale A. J, and Hoover E. M., (2015), Population growth and economic development. Princeton University Press
11. Razin A. and Sadka E., (1995), Population Economics, The MIT Press, The International Economy 1996.2 (1996): 88-90.
12. Lee, R., (2009), New perspectives on population growth and economic development, Trabajopreparado para the UNFPA plenary session on After Cairo, Issues and Challenges
13. Schultz T. W., (1982.), Investing in people: The economics of population quality, University of California Press
14. Cohen J. E., (1995), Population growth and earth's human carrying capacity, Science 269.5222: 341.

15. Marquette C., (1997), Turning but not toppling Malthus: Boserupian theory on population and the environment relationships
16. Geertz C., (1963), Agricultural involution: the process of ecological change in Indonesia, Vol. 11, University of California Press
17. White B., (1976), Population, involution and employment in rural Java, Development and Change, 7.3 (1976): 267-290.
18. Becker G. S., (2009), A Treatise on the Family. Harvard university press, 2009
19. Becker G.S., (1973), A theory of marriage: Part I." The Journal of Political Economy: 813-846.
20. Becker G. S., (1960), 'An economic analysis of fertility', Demographic and economic change in developed countries". Columbia University Press. 209-240.
21. Becker, G; S., and Lewis H. G., (1974), Interaction between quantity and quality of children." Economics of the family: Marriage, children, and human capital, University of Chicago Press,. 81-90.
22. Becker G. S., (1974), "A theory of marriage", Economics of the family: Marriage, children, and human capital. University of Chicago Press, 1974. 299-351.
23. Barro, R. J., and Becker G. S., (1989), "Fertility choice in a model of economic growth."Econometrica: journal of the Econometric Society: 481-501.
24. Todaro M. P., Smith S. C., (2015), Economic Development (12th Edition), Pearson
25. World Bank, (2006), Repositioning Nutrition as Central to Development: A Strategy for Large-Scale Action

## EMHE 606

## Health Policy and Planning

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1. **Better Coverage Initiatives:** Health for All and Primary Health Care, Essential Services Package, Millennium Development Goals, Universal Health Coverage, Sustainable Development Goals
2. **Policy:** Situation Analysis, Policy Formulation, Bangladesh Health Policy, Strategies and Plans; Health Policies in Other Countries
3. **Planning:** Principles of Planning, Need for Planning, Steps of Planning, Economic Appraisal/ Sustainability Analysis, Operational Plan
4. **Techniques of Planning:** Logical Framework, Linear Programming, Input-Output Model, Decision Tree, Network Analysis, Activity Analysis
5. **Policy Analysis:** Formulation and Implementation, Notions of the Policy Process, Policy 'Failure', Models of Policy Implementation

## Reference

1. Green A., (1988), An Introduction to Health Planning in Developing Countries, Oxford, OUP
2. Abel S. B., (1994), An Introduction to Health Policy, Planning and Financing. London, Longmans
3. Ministry of Planning, Govt. of Bangladesh (2003), Poverty Reduction Strategy Papers (PRSP)
4. Ministry of Health and Family Welfare. Govt. of Bangladesh, (2002), Human Resource Management in Health
5. Health Care Spending in U.S. Growing More Rapidly Than in Most Other Developed Countries, Analysis Shows <http://www.kff.org/insurance/snapshot/OECD042111.cfm>
6. UN (1994), International Conference on Population and Development (ICPD), Cairo, Egypt
7. UN (2000), Millennium Development Goals (MDG)
8. Reinke W., (1988), Health Planning for Effective Management, Oxford, OUP
9. World Health Organization, World Health Reports
10. Pliskin, J.S. et al., (2006), Focused Operations Management for Health Services Organizations, Josey-Bass: A Wiley Imprint
11. Tabish, S. A. (2001). Hospital and health services administration: principles and practice. Oxford University Press, USA
12. Hyder R. K., Text Book of Community Medicine and Health
13. Park and Park, Text Book of Community Medicine
14. Bruce J. F., Myron D., Fottler and Johnson J. A., Human Resources in Healthcare Managing for Success
15. Agarwal R. D., Organization and Management

## 2.4 3rd Semester

### EMHE 607

### Hospital Management

1. **Introduction to Hospital Management:** An Epidemiological Perspective for Healthcare Management, Challenges and Strategies in Hospital Management, Functions of Hospital Management
2. **Modern Techniques in Hospital Management:** The Feedback Loop, Time Series Analysis, Value Analysis and Queuing Theory, Program Evaluation and Review Techniques (PERT) And Critical Path Method (CPM), Statistical Quality Control and Operations Research, Cost Analysis, Management by Objectives (MBO), Quality Circles and Management Problem Solving Methods (MAPS)
3. **Responsibilities of a Manager:** Administrative Functions and Healthcare Marketing
4. **Managing Finance:** Management Accounting Techniques and Depreciation
5. **Materials Management:** Elements of Materials Management, Inventory Control and Purchasing
6. **Managing Service Delivery:** Principles of Risk Management, Risk Management- a New Paradigm, Legal Aspects of Health Care
7. **Managing Support Services:** Medical Records and its Computerization, Housekeeping, Hospital Engineering, Ambulance, Optimizing Laboratory Performance, Biomedical Waste Management
8. **Human Resource Management:** The Cutting Edge Of HRD, HR Accounting and Planning, Service Rules (Model), Managing Nursing Services
9. **Management Information System (MIS):** Effective Communication in Healthcare Organization, Integrated Hospital Information Systems, Patient Care Information Systems
10. **Managing Relations:** Public Relations in Hospitals
11. **Quality Issues in Health Care:** Managing Quality – Quality from Providers' Perspective, Medical Audit and Quality, Cost Implications of Quality, Quantity Vs. Quality, The Reasons for Cross-Border Healthcare, Importance of Quality to Providers and Consumers, Quality Assurance

### References

1. Iles (1997), Really Managing Health Care
2. Strike (1995), Human Resources in Health Care: A Manager's Guide
3. Tabis M., (2001), Hospital and Health Services Administration: Principles and Practice



## EMHE 608

## Economic Evaluation of Health Care

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1. **Introduction:** Need for Public Sector Interventions, Efficiency of Health Service Delivery, Importance of Economic Evaluation of Health Care
2. **Techniques of Economic Evaluation:** Partial Economic Evaluation and Full Economic Evaluation, Different Techniques of Economic Evaluation
3. **Cost Analysis:** Selection of Cost, Estimation of Cost, Top Down and Bottom-Up Approach, Discounting and Annuity Factor, Cost Minimization Analysis
4. **Cost Effectiveness Analysis:** Definition, When We Should Conduct Cost Effectiveness Analysis? Average Cost Effectiveness Ratio, Incremental Cost Effectiveness Ratio, Concept of Dominance and Extended Dominance, Critical Value of Cost Effectiveness Ratio
5. **Cost Utility Analysis:** What Is Cost Utility Analysis? When We Should Conduct Cost Utility Analysis? Differences Between Cost Effectiveness Analysis and Cost Utility Analysis, Measuring Health Outcomes Under Cost Utility Analysis, Quality Adjusted Life Years (Qalys), Disability Adjusted Life Years (Dalys)
6. **Cost Benefit Analysis:** Concept of Cost Benefit Analysis, Measuring Benefits Under Cost Benefit Analysis; Direct, Indirect and Intangible Benefits, Willingness-To-Pay Surveys, Ranking Alternatives Under Cost Benefit Analysis
7. Emerging Techniques of Measuring Burden of Disease
8. **Decision Tree Analysis:** Uncertainty and Models in Economic Evaluation
9. **Health Impact Assessment:** What Is Health Impact Assessment? Importance of Health Impact Assessment, Methods of Health Impact Assessment, Evidences on Health Impact Assessment.

## References

1. Drummond M. F., Stoddart G. L. and Torrance (2015), Methods for the Economic Evaluation of Health Care Programmes; Oxford University Press.
2. Sloan F. A. (1995), Valuing Health Care; Cambridge University Press.
3. Gold M. R., Seigel J. E., Russell L. B., and Weinstein M. C. (1996), Cost-effectiveness in Health and Medicine, Oxford University Press.
4. Jacobs P. (1991), The Economics of Health and Medical Care; Aspen Publishers, Inc. Gaithersburg, Maryland
5. Mills A. and Gilson L. (1988), Health Economics for Developing Countries: A Survival Kit; EPC Publication no. 17, Health Policy Unit, LSHTM

6. Zschock D. K. (1983), Health Care Financing in Developing Countries
7. Culyer A.J. and Newhouse J.P. (2000), North-Holland Handbook of Health Economics, Elsevier.
8. Arrow K. (1975), Social Choice and Individual Values
9. Morris S., Appleby J. and Parkin D., Economic Analysis in Health Care

## EMHE 609

## Applied Health Econometrics

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1. Introduction to Econometrics
2. Application of Simple and Multiple Regression Model
3. Statistical Inference of the Estimates of Regression Parameters
4. Regression with Qualitative Explanatory Variables: Binary (Or Dummy) Variables
5. Binary Outcome Model and Regression with Truncated and Censored Dependent Variable: Logit, Probit, Tobit Regression

### Reference

1. Wooldridge J. M., Introductory Econometrics: A Modern Approach
2. Cameron A. C. and Trivedi P. K., Microeconometrics: Methods and Application
3. Green W. H., Econometrics Analysis
4. Jones A. M., (2005), Applied Econometrics for Health Economists: A Practical Guide

OR,

## EMHE 610

## Economics of Health Insurance

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1. Insurance and its Economic Role
2. **Risk:** Measurement, Perception, and Management of Health Risks
3. **Demand for Health Insurance:** Decisions Under Risk with Diversification Possibilities Vis-A-Vis without Diversification Possibilities
4. The Health Insurance Company and its Insurance Technology

5. The Supply of Health Insurance
6. Health Insurance Markets and Asymmetric Information
7. Social Health Insurance
8. Regulation of Health Insurance
9. Actuarial Methods and Designing of Health Insurance
10. Challenges Confronting Health Insurance

## References

1. Zweifel P., & Eisen R., (2012), Insurance economics, Springer Science & Business Media.
2. Borch K. H., Sandmo A., & Aase K. K., (2014), Economics of Insurance (Vol. 29). Elsevier.
3. Seog S. H. (2010), The economics of risk and insurance. John Wiley & Sons.
4. Dionne G., & Harrington S. E. (1992), An introduction to insurance economics. In Foundations of Insurance Economics (pp. 1-48). Springer Netherlands.
5. Finkelstein A., (2014), Moral Hazard in Health Insurance. Columbia University Press.

## 2.5 4th Semester

### EMHE 611

### Pharmacoeconomics

1. **Introduction:** Definition, Scope and Importance of Pharmaceutical Economics
2. **Demand:** Demand for Pharmaceutical Products Vis-A-Vis Other Commodities, Determinants of Demand of Pharmaceutical Products, Health Insurance Vs Demand for Pharmaceutical Products, Price Discrimination of Pharmaceutical Products, Market Entry of Generic Drugs and Its Impact on Demand of Patent Drugs, Therapeutic Equivalence and the Generic Competition Paradox
3. **Promotion (Advertising) and Marketing of Pharmaceutical Products:** Marketing of Pharmaceutical Products Vis-A-Vis Other Commodities, Pharmaceutical Promotion Policies, Impact of Aggressive Marketing on Demand, Price and Quality of Pharmaceutical Products
4. **Pharmaceutical Industry:** Structure of the Industry, Role Of R&D, Product Development Cycle and Patent Policies, Vertical and Horizontal Integration of Pharmaceutical Firms
5. Market Structure of Pharmaceutical Products
6. **Pricing of Pharmaceutical Products:** Pharmaceutical Prices and Pricing Models, E.G., Regulation of Mark-Ups in Pharmaceutical Supply and Distribution Chain, Costs Plus Pricing Formulae, External Reference Pricing
7. **Pharmaceutical Policies:** The Public Choice Model of Policy Making, Pharmaceuticals, Cross National Price Differences, Drug Policies and the Politics of Essential Drugs in Bangladesh
8. **Regulations:** Government Regulation and the Drug Administration, Patent Protection, New Drug Introduction, Generic Products Approval of New Drugs, Pricing of New Drugs, Drug Policy and The Politics of Essential Drugs in Bangladesh
9. **Economic Evaluation of Pharmaceutical Products:** Cost-Effectiveness, Cost-Utility and Cost-Benefit Analysis, Markov Modeling, and Measurement of Outcomes

### References

1. Ronad J. V., Pharmaceutical Economics and Public Policies
2. Chowdhury Z., Politics of Essential Drugs
3. Sloan F.A., and Hsieh C. R., Health Economics
4. Drummond M.F. et al. (2015), Methods of Economic Evaluation of Health Care Programmes, Oxford Medical Publications, Oxford.
5. Gold M R et al., (1996), Cost-effectiveness in Health and Medicine, Oxford University Press
6. Schweitzer S. (1997), Pharmaceutical Economics & Policy, Oxford University Press

## EMHE 612

## Advanced Health Economics

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1. **Introduction:** Importance, Need of Health Care, Demand for Health Care, Production of Health Care, Health Care Financing, Efficiency and Equity
2. **Demand for Health Care:** Access and Access Barriers, Health Seeking Behavior, Medical Tourism, Grossman Model and its Implications, Determinants of Demand for Health Care, Social Determinants of Health
3. **Market Failures and the Role of Government:** Information Asymmetries, Externalities, Affordability and Deprivation for the Demand of Health Care, Government Intervention
4. **Efficiency in Health Care Production:** Concept, Technical, Production and Allocative Efficiency, Different Methods of Measuring Efficiency
5. **Resource Allocation and Equity in Health Care Delivery:** Concept, Measurement of Horizontal and Vertical Equity, Resource Allocation Formula
6. **Provider Payment Mechanisms:** Prospective Payment Mechanisms, Retrospective Payment Mechanisms, Per Capita Reimbursement, Per Case Reimbursement, Drugs
7. **Financing of Health Care:** Concept, Tax Financed Health Care System, Private Health Insurance, Social Health Insurance, Community Health Insurance, Out of Pocket Payments, User Fees, Other Non-Traditional Methods of Health Financing, Medical Saving Scheme, Contributions of Developing Partners, Health Care Financing Strategy of Bangladesh, Equity in Health Care
8. Quality of Health Care and Medical Malpractices
9. Market for Physicians' Services
10. Market of Drugs and Pharmaceutical Manufacturers
11. **Overview of National Health Accounts:** Concept, Classification of Function, Classification of Provider, Health Financing Schemes, Financing Agents, Bangladesh National Health Accounts
12. **Evaluation of Major Health Systems:** UK System, German System and US System

## References

1. Culyer A.J. and Newhouse J.P., (2000), North-Holland Handbook of Health Economics, Elsevier.
2. Arrow K. (1975), Social Choice and Individual Values.
3. Folland S., Goodman A.C. and Stano M., (2000), The Economics of health and health care, Macmillan (3rd edn).
4. Jack W., (1999), Principles of Health Economics for Developing Countries, World Bank

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5. Morris S., Appleby J., and Parkin D., (1983), Economic Analysis in Health Care
6. Lee K. and Mills A., (1983), The Economics of Health in Developing Countries. Oxford, Oxford University Press.
7. Lee K. and Mills A., (1983), The Economics of Health in Developing Countries. Oxford, Oxford University Press.
8. McGuire A., Henderson J., Mooney G., (1988), The Economics of Health Care: an introductory text, London, Routledge and Kegan Paul.
9. Mills a. and Gilson L., (1988), Health Economics for Developing Countries: A Survival Kit
10. Zweifel P., and Breyer F., (1997), Health Economics, O.U.P.
11. Health Economics Unit, Ministry of Health and Family Welfare, Bangladesh National Health Account (1997-2012)
12. Health Impact Assessment: A practical guide, University of New South Wales

## EMHE 613

## Health Project Design and Project Paper

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Approximately fifteen classes will be held on the issues relating to project design and management. Class tests (10 marks) and midterm examination (20 marks) will be held on the subject matters of class lectures.

Each student will prepare a project proposal which will be finalized after presentation in the class (15 marks), before midterm examination.

There will be no final examination for this course. The project papers prepared by the students will be treated as the substitute for the final examination (50 marks). Students will conduct field work and prepare the dissertation in four weeks after the semester final examination. Thereafter, a viva-voce examination will be held on the dissertation.

### Contents of Lectures:

1. **Introduction:** History, Constraint, Knowledge, Success and Failure Causes, Project Vs Program, Project Management Vs Process Management, Project Vs Operation, Pillars, Current Challenges, Maturity Measure.
2. Project Lifecycle
3. Project Initiation
4. Project Leadership and Team Development
5. Stakeholder Analysis, Scope Management, Communication Management
6. Time Management
7. Project Planning

8. Risk Management, Change Management
9. Procurement Management
10. Project Control and Close Out
11. Project Charter Development
12. Tools and Techniques for Project: Work Breakdown Structure, Gantt Chart, PERT, Critical Path, Delphi Technique, BOSCARD, MoSCoW Method, RACI Matrix

## References

1. Horine G., (2012), Project Management Absolute Beginner's Guide (3rd Edition)
2. Joseph H., Fundamentals of Project Management (Worksmart) (4th Edition)
3. Bonnie E., (2015), The 3-Step Guide to Choosing the Right Project Management Methodology
4. A Guide to the Project Management Body of Knowledge, PMI Standards Committee, Project Management Institute, 1996 ISBN 1880410133
5. Pritchard C. L., (2001), Risk Management: Concepts and Guidance, 2nd Edition, ESI International

**OR,**

## EMHE 614

## Research Methodology and Dissertation

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Approximately fifteen classes will be held on methods of conducting research. Class tests (10 marks) and midterm examination (20 marks) will be held on the subject matters of class lectures.

Each student will prepare research proposal which will be finalized after presentation in the class (15 marks), before midterm examination.

There will be no final examination for this course. The dissertation prepared by the students will be treated as the substitute for the final examination (50 marks). Students will conduct fieldwork and prepare the dissertation in four weeks after the semester final examination. Thereafter, a viva-voce examination will be held on the dissertation.

## Contents of Lectures:

1. Introduction to Research Methodology, Methods of Acquiring Knowledge, Definition of Research, Difference between Research and Other Methods of Acquiring Knowledge, Definition of Scientific Research

2. Important Theories of Knowledge (Epistemology): Rationalism (Descartes and Spinoza), Empiricism (Locke, Hume, Berkley), Composite View (Aristotle, Kant), Major Lessons of Epistemology for Research
3. Method of Conducting Research (Logic): Non-scientific Methods, Scientific Methods – Deduction (Aristotle), Induction (Becon, Hobbes), Composite Method for Social Science Research
4. Evolution of Scientific Research
5. Crucial Steps in Research
6. Detailed Steps in Research (Including Steps in Survey)
7. Method of Preparing Research Proposal
8. Method of Preparing Thesis/Dissertation

## References

1. Sharma B.A.V. et al., Research Methods in Social Science
2. Kish L., (1965), Survey Sampling, John Willey & Sons, Sydney
3. Wilkinson S., (1982), Methodology and Techniques of social research
4. Monette D. R. et al., (1986), Applied Social Research – Tool for the Human Services, (Fourth Edition), Harcourt Brace College Publishers
5. Levy P. S., Lemeshow S., (1999), Sampling of Population-Methods & Applications, (Third Edition), John Willey & Sons, Inc
6. Foreit J. R. et al., (2006), Scientific Writing for Reproductive Health Program, USAID, Population Council, WHO
7. Department of Economic & Social Affairs-Statistics Division (2005), Designing Household Survey Sample: Practical Guidelines, UN, New York



## SECTION 3

### ACADEMIC RULES

#### 3.1 Admission Session

Students can be admitted in maximum of two (2) sessions (January-June and July-December) per year in Executive Master's in Health Economics.

#### 3.2 Admission and Degree Requirements

##### Executive Master's in Health Economics

The Institute will follow the general guideline of the University. EMHE program enrolls 40 students based on the performances in the admission test conducted by the Institute of Health Economics, University of Dhaka. Academics/Researchers/Executives/Officers working in Government, Autonomous Bodies and NGOs who have at least a bachelor's degree from a recognized institution with professional experience preferably 3 years are eligible to apply. Preference will be given to the applicants working in the health sector. Students who obtained a third class or CGPA below 2.5 out of 4 in the graduation and master level are not eligible for admission. The Institute of Health Economics will judge the suitability of the applicants for admission into the program.

##### Admission process

- Admission to Executive Master's program have a written admission test system as well as a viva-voce. 40% will be considered as the minimum pass number in the admission test. Students must be admitted based on merit.
- **Equality Assessment:** In case of admission to Executive Masters, students having undergraduate/postgraduate degrees from foreign universities need the eligibility for admission to be determined by the Dhaka University Equality Assessment committee.
- **Hall Relevance:** Students of each Executive Program must be attached to any residential hall of the University. These students are irregular students. Hence will not be considered as residential students and will not take advantage of any facilities in the hall nor can participate in any activity.
- **Identity card:** Every executive student of the university will get the identity card of the concerned hall as an irregular student. The name of the program should be mentioned on the identity card. A color needs to be specified for the identity cards of these students, other than the color of the conventional cards.

## **Duration of the program**

The duration of this program will be 18 months divided into 4 semesters (4.5 months per semester). The degree must be obtained within the maximum duration of five (5) years.

## **Educational activities**

Student admission, class activities, examination and evaluation, tabulation, publication of results, and issuance of certificates should be in the light of the Central Policy/policies approved by the Academic Council/resolution of the Syndicate meeting of the University.

## **The requirements of EMHE degree**

- Completion of 12 courses (total 48 credit hours),
- Passing of all courses individually and maintaining a minimum cumulative grade point average (CGPA) of 2.25.

## **3.3 Method of Instruction**

The medium of instruction is English.

Teaching is done through lectures, supplemented by project work, case presentation, group discussions, seminars, audio-visual aids and visits to facility/institutions/organization related to their study. An emphasis is given to the project work, case method of instruction and other techniques that simulate situations.

For each course taken in a semester, a student is assigned textbooks and lecture material for the semester. Supplementary texts/journals/reading materials are also used. Students are required to prepare assignments as per guideline and schedule provided by the respective course teacher. Additionally, students are required to participate in class discussion and sit for periodical quizzes and tests.

Lectures and research seminars by prominent executives and researchers on the relevant sectors are arranged with approval from the academic committee and students are required to participate.

## **3.4 Course Load**

A student will enroll for three courses per semester for the 1st and 2nd semester. In the last two semesters, two courses are compulsory, and one course is optional.

## 3.5 Credit Structure

Credit Structure of EMHE Degree Program is as follows,

- The Executive Master's Programme in Health Economics shall be of one and a half year (18 months) duration divided into 4 (four) semesters. Each semester shall be of 18 weeks (4.5 months), of which 15 weeks shall be for class teaching, 1 week for preparation, and 2 weeks for holding the semester final examination.
- The programme shall include teaching of 12 courses a total of 1200 marks, which will be translated into 48 credit hours.
- Since the credit hours are counted on the basis of lecture class/contact hours per weeks, number of lecture classes/contact hours shall be determined according to the credits assigned to each course unit. For a 4-hour credit course unit, there shall be two lecture classes of 90 minutes each, and one 60 minutes' discussion class/lab work/group presentation/class tests every week.

Semester	No. of Courses	Total Marks	Earned Credits
1 <sup>st</sup>	3	300	12
2 <sup>nd</sup>	3	300	12
3 <sup>rd</sup>	3	300	12
4 <sup>th</sup>	3	300	12
<b>Total</b>	<b>12 Courses</b>	<b>1200</b>	<b>48</b>

## 3.6 Evaluation and Grading

Evaluation and grading shall be determined based on the semester examination including:

- Semester final examination
- Term paper/home assignments
- Mid-term examination
- Active participation in the discussion class/ tutorial class/ group participation/ class test.

### The distribution of marks for evaluation

Midterm (2)	30%
Class participation	5%
Term paper/Case presentation/Quiz	15%
Semester Final Examination	50%
<b>Total</b>	<b>100%</b>

In keeping with the uniqueness of each course, as per the recommendation of the academic committee, some changes/adjustments can be made in taking the tests and distribution of marks.

## The distribution of marks for class attendance and participation

Attendance range (in percent)	Marks
90% and above	5.0
85% to less than 90%	4.5
80% to less than 85%	4.0
75% to less than 80%	3.5
70% to less than 75%	3.0
65% to less than 70%	2.5
60% to less than 65%	2.0
55% to less than 60%	1.5
50% to less than 55%	1.0
45% to less than 50%	0.5
Less than 45%	0.0

## Grading system in 4-point grading scale

Marks range (in percent)	Letter Grade	Explanation (of performance)	Grade Points
80% and above	A+	Excellent	4.00
75% to less than 80%	A		3.75
70% to less than 75%	A-		3.50
65% to less than 70%	B+	Very good	3.25
60% to less than 65%	B		3.00
55% to less than 60%	B-		2.75
50% to less than 55%	C+	Good	2.50
45% to less than 50%	C		2.25
40% to less than 45%	D	Passing	2.00
Less than 40%	F	Failing	0.00

## Interpretation of the grades

- “A+”, “A” and “A-” grades are indicative of “excellent” performance overall by a student, earning grade points of 4.00, 3.75, and 3.50, respectively
- “B+”, “B” and “B-” grades are indicative of “very good” performance overall by a student, earning grade points of 3.25, 3.00, and 2.75, respectively
- “C+”, “C” is indicative of “good” performance overall by a student, earning grade points of 2.50, 2.25, respectively
- “D” grade is indicative of minimally acceptable “passing” performance overall by a student, earning a grade point of 2.00
- “F” grade is indicative of an unacceptable “failing” performance overall by a student, i.e., fail to earn any credit point

## 3.7 Class Activity Time

Class activities can be conducted at any suitable time during the second half of the weekly working day and on holidays.

## 3.8 Teaching method

A blended System can be followed in conducting class activities. According to the decision of the academic committee, maximum 30% of the classes can be taken online. However, the test will be held in person. In special circumstances, the test can also be taken online.

## 3.9 Passing Criterion, Readmission, Attendance Policy, and Other Rules

### Passing criterion for EMHE

The passing criterion for the EMHE is a minimum CGPA of 2.25

### Class attendance

A student must attend at least 75% of the classes of each course enrolled during a semester. If it is between 60% to 75%, students are not allowed to appear the exams with a payment of fee fixed by the university. If the attendance is below 60%, students will not be allowed to sit for final examination.

## Repeating a course

A course may be taken only once for a grade, except when a student receives a failing grade that is recorded as 'F' and a student, for non-academic reasons beyond his control, is unable to complete the full requirements of the course who will submit the valid and authenticated evidence of such reasons and the recommendation of the course teacher. Since the passing of all courses individually is a degree requirement, the student must re-sit for the examination of the failing course within four weeks from the date of announcement of results of each semester. To be eligible for a re-sit examination, a student must have to attend the semester final examination. Re-siting is allowed for **only one course** in each semester. Fees are applicable for the re-sit examination. A student will not be promoted if he/she fails to achieve the minimum required grade.

## Unfair means

The following would be considered as unfair means adopted during examinations and other contexts:

- Communicating with fellow students for obtaining help
- Copying from another student's script/report/paper
- Copying from desk, or palm of a hand, or from other incriminating documents
- Possession of any incriminating document whether used or not
- Any approach in direct or indirect form to influence teacher for grade, and
- Unruly behavior, which disrupts academic programme.

Adopting of unfair means may result in the dismissal of a student from the programme and expulsion of the student from the Institute and as such from the University.

## Readmission

- A student failing to get the requisite grade points for any semester may seek readmission within the validity of the registration period of 5 years. This clause is also applicable for any student failing to appear in the semester final examination.
- On readmission, GPA earned in the earlier semesters by a student will remain valid.
- On readmission, the students have to retake all the course work and examinations on the semester of readmission.
- A student shall not be allowed readmission in more than two semesters during the entire program.

## Drop out

A student shall be dropped out of the EMHE program if she/he fails to complete the program even after taking re-admission for two times.

## **Grievance regarding CGPA after the publication of result**

If a student is aggrieved by the evaluation and grading of academic work, he/she may file a grievance application to the Director. The director of the institute will involve the grievance settlement committee, which will be constituted by the academic committee of IHE from time to time.

The answer scripts of the aggrieved student will be re-examined after getting permission from the authority. A student has to pay BDT. 3000 to re-examine each answer script and it can be done at best for 2 courses in the entire program.

## **3.10 Transcript, Certificate, and Signatory**

- Certificate of specific format approved by the University will be applicable.
- Transcripts / Certificates of all Professional Masters / Executive Masters / Post Graduate Diploma Programs will be signed by the Controller of Examinations, University of Dhaka as per regular program.
- All transcript and certificate-related fees will apply at the same rate as regular students.
- The department / institute / center can issue certificate subject to the approval of the authority regarding the certificate / training course.

## **3.11 Fees and Charges**

In addition to the tuition fees and other fees payable to the university, the students will be required to pay fees, which the Institute shall charge, for its development activities. Students will be charged additional fees for a computer laboratory, own seminar library, semester fund as well as co-curricular activities.

## **3.12 Issues not Covered Here**

For the issues that are not covered here, the institute will follow the standard rules and regulations practiced in the University of Dhaka.

N.B. Rules and regulations contained here are subject to change. Students will be required to comply with the changes in the rules and regulations as applicable to them.