

## **DRUG SUPPLY MANAGEMENT COURSE SYLLABUS**

**Course title: Drug Supply Management**

**Course code: Phar 3144**

**Course EtCTS: 5**

Course ECTS credits: 5 ECTS = 135 study hours

- Lecture= 48
- Assignment= 10 hours
- Presentations=14
- Tutorial= 13 hours
- Home study= 36 hours
- Hospital pharmacy visit= 4 hrs
- Assessment=10 hours

Pre-requisite if any: Health Service Management and Policies

Course Description:

- The drug supply management course introduces students with the concept of essential drugs, drug policy, and rational drug use and tools to investigate use of medicines. It also gives an insight on functions of drug supply management cycle, namely, selection, quantification, procurement, distribution, and rational use. Furthermore, accounting principles, as well as marketing and sales management principles and techniques will be introduced.

Course Objective:

- After completion of this course, students will be able to describe the concept of essential drugs, the national drug policy including the core objectives and key strategies, drug management cycle, the tools used to investigate drug use, the principles of accounting, principles of marketing pharmaceutical products and the sales management techniques, and also the monitoring and evaluation of whole activity.

Supporting objectives:

To meet this objective, students will:

- Describe the role of drugs and drug products in the diagnosis, treatment and prevention of diseases.
- Discuss what national drug policy is and answer why countries need to have a drug policy.
- Describe the principles of drug supply management system including selection, quantification procurement, distribution and usage at health facility or national level.

- Adopt methods of community drug needs assessment and drug use evaluation.
- Adopt good storage practice and standard operating procedures for drug management at health facilities.
- Prepare list of essential drugs and supplies at health facilities or national level.
- Perform estimation (forecasting) of the quantities of drugs and supplies needed.
- Perform drug use pattern assessments at health facilities using WHO/INRUD indicators
- Practice appropriate documentation and reporting of drugs on stock, expired drugs and drug consumption and related activities to appropriate persons and/or organizations.
- Demonstrate how to dispose expired and other unfit-for-use products based on national guideline
- Identify challenges for drug supply management.
- Explain drug selection, its rationale, and criteria for drug selection.
- Describe drug storage and stock management, stock rotation medical stock security and importance of stock management.
- Describe rational drug use: promotion of rational prescribing, dispensing and use by patients.
- Discuss about managing, monitoring and evaluation of equipments and medical supplies usage.
- Assume responsibility and accountability for wastage (damage or expiry) of medicines or supplies resulting from negligence.
- Explain what an accounting mean,
- Discuss why accounting is said to be the language of business
- Go through and accomplish the accounting cycle

Week	Contact hrs	Topic/sub-topic/chapter	Reading materials	Remark
1	4	1.Introduction	Reference 1 & 4	
		▪ Overview of the course	Reference 1 & 9	
		2. Concept of Essential Drugs and National Drug Policy		
		2.1 Concept of essential drugs		
2	4	2.2 The formulary process	Reference 1,2,3,4,5, 6 & 11	
		2.3 Definition of NDP		
		2.4 Objectives and key strategies of NDP		

		2.5 How to develop the NDP?	
3	4	3. Drug management cycle	Reference 1,4 ,12& 15
		3.1 Selection of Drug	
4	4	3.2 Quantification Methods	Reference 1,4,10 &15
5	4	3.2 Procurement Process	Reference 1,4 & 15
		3.2.1 Managing procurement	
6	4	3.2.2 Inventory management	Reference 1,4 &15
		3.2.3 QA for drug procurement	
7	4	3.3 Distribution System	Reference 1,4,13,14 & 15
		3.3.1 Managing distribution	
		3.3.2 Good storage practices	
8	4	3.4 Drug Use	Reference 1,4,13,14 &15
		3.4.1 Rational drug use	
		3.4.2 Types of irrational drug use	
		3.4.3 Factors contributing to irrational drug use	
		Strategies for the promotion of rational drug use	
9	4	4. Tools to investigate the use of medicines	Reference 1,4,8,13,14 &15
		4.1 Stepwise approach to investigate the use of medicines	
		4.2 WHO/INRUD Drug Use Indicators	
10	4	4.3 Qualitative methods to investigate problems of drug use	
11	4	5 Drug management information system	Reference 1,4,13,14 &15
		6 Monitoring and evaluation	
12	4	7 Accounting principles	Reference 16,17&18
		7.1 Introduction to accounting (definition of accounting; need for accounting; general accepted accounting principles; accounting planning and budgeting; users of accounting data).	

13	4	7.2 Developing an accounting system (the accounting equation; maintaining journals and ledgers; financial statements; the accounting cycle).	Reference 16,17&19
14	4	7.3 Interpretation of financial statements (comparative financial statement analysis; analysis used by creditors; solvency; efficiency; long-term financial condition; auditing).	Reference 16,17&19
15	4	8 Pharmaceutical Marketing  8.1 Principles of marketing pharmaceutical products and the sales management techniques  8.1.1 The manufacturer's perspective,	References 1 & 15
16	4	8.1.2 Market research, pricing and competition approaches.  8.1.3 Advertising, detailing and other forms of sales promotion  8.1.4 The administration of the marketing and sales staff.	References 1& 15

#### **Delivery mode/methodology:**

This course is thought using a variety of instructional methods including

- Illustrated Lectures and case studies
- Active learning methods (brain storming, buzz group, discussion, etc)
- Individual and group exercises and assignments
- Presentations and participation in class discussion
- Hospital pharmacy visit

#### **Assessment mechanisms:**

Continuous assessment & summative assessment

- Assignments: 15%
- Presentations: 10%

- Quizzes: 15%
- Test: 20%
- Final exam: 40%

#### LEARNING MATERIALS:

- Recommended Readings:
  1. Management sciences for Health (1997) managing drug supply. Second Edition, revised and expanded, Kumar press, West Hartford, Conn., USA.
  2. Ministry of Health of Ethiopia (1997). The National Drug Policy of the transitional government of Ethiopia, Addis Ababa, Ethiopia.
  3. Holloway K. (ed.) and Terry Green (2003). Drug and Therapeutics Committees. WHO/MSH.
  4. Federal Ministry of Health of Ethiopia (1996). Manual on Drug Supply Management, Prepared by Drug Administration and control Department, Addis Ababa, Ethiopia
  5. WHO (1988) .Guidelines for Developing National Drug Policies, WHO, Geneva, Switzerland.
  6. WHO (2001). How to develop and implement a national drug policy. Second edition. Geneva, Switzerland.
  7. Smith, H.A. (2003). Principles and Methods of Pharmacy Management, 2<sup>nd</sup> ed. Lea & Febiger, Philadelphia, 1980.
  8. Hardon A., Hodgkin C., and Fresle D. (2004). How to investigate the use of medicines by consumers, WHO/University of Amsterdam/Royal Tropical Institute.
  9. WHO (1997). The use of Essential Drugs: Seventh Report of the WHO Expert Committee (including the revised Model List of Essential Drugs), TRS 867, WHO, Geneva, Switzerland.
  10. WHO (1988). Estimating Drug Requirements, a practical Manual, WHO/DAP/88.2
  11. WHO (1994). Indicators for Monitoring National Drug policies, a Practical Manual, WHO/DAP/94.12, WHO Geneva, Switzerland.
  12. WHO (1990) Management of Drugs at Health Facilities, WHO/DAP/90.10 WHO, Geneva, Switzerland.
  13. WHO (1997). Public-private Roles in the Pharmaceutical sector. Implications for equitable Access and Rational Drug use. Health Economics and Drugs, DAP series N. 5, WHO/DAP/97.12, WHO, Geneva, Switzerland.
  14. WHO (1997).The role of the pharmacist in the Health care system; WHO/Parma/97/599, WHO, Geneva, Switzerland.
  15. Troy BD (ed) (2006). Remington: The Science and Practice of Pharmacy, 21<sup>st</sup> ed, Lippincott Williams and Wilkins, Philadelphia.

16. Fess and Warren. Accounting Principles. South-Western Publishing Co., 16<sup>th</sup>.
17. Kermit D. Larsen: Fundamental Accounting Principles: 12<sup>th</sup> ed.; Richard Irwin Inc., 1990.
18. Hermanson, Edwards and Salmon son: Accounting Principles, 4<sup>th</sup>-7<sup>th</sup> ed. Richard D. Irwin Inc.1989.
19. Needles, Belverd E. Jr., Henry R. Anderson, James C. Caldwell, and Sherry K. Mills. Principles of Accounting. Houghton Mifflin Company.