

# Pharmacy Technician Certification Board Preparation

## Orientation

- 1 Students will demonstrate knowledge of basic pharmacy terms and definitions regarding certification, licensure and registration** 0711.1

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- 2 Students will differentiate certification, licensure and registration.** 0711.2

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- 3 Students will determine certification requirements for the pharmacy technician.** 0711.3

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- 4 Students will recognize the origin and goal of the Pharmacy Technician Certification Board (PTCB).** 0711.4

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- 5 Students will examine the role of the PTCB.** 0711.5

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- 6 Students will distinguish professional organizations related to the field of pharmacy.** 0711.6

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- 7 Students will characterize the functions and responsibilities of the pharmacy technician.** 0711.7

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- 8 Students will classify the three areas in which skills will be measured on the Pharmacy Technician Certification Exam.** 0711.8

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- 9 Students will determine the requirements and process needed to maintain certification.** 0711.9

## Federal Laws

- 10 Students will demonstrate knowledge of legislation that affects the pharmacy industry.** 0711.10

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- 11 Students will examine laws and legislation affecting the pharmacy industry.** 0711.11

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- 12 Students will recognize the importance of the Controlled Substance Act of 1970 as it relates to the manufacturing, distribution and dispensing of controlled substances based on abuse potential.** 0711.12

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**13** Students will differentiate filing procedures, maintaining records according to State and Federal Laws and drug substitution requirements. 0711.13

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**14** Students will evaluate the mission of the Drug Enforcement Administration. 0711.14

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**15** Students will determine the process by which a doctor obtains a DEA Number. 0711.15

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**16** Students will establish the purpose of a prescriber DEA Number. 0711.16

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**17** Students will illustrate the process to determine the validity of a DEA Number. 0711.17

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**18** Students will distinguish the storage requirements for Schedule II Drugs. 0711.18

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**19** Students will investigate the four phases of Investigational Drugs. 0711.19

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#### Medication Review

**20** Students will demonstrate knowledge of drug classifications, medication dosage form and administration of medications. 0711.20

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**21** Students will demonstrate basic terms and abbreviations used in the pharmacy. 0711.21

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**22** Students will differentiate chemical, generic and trade names of drugs. 0711.22

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**23** Students will compare dosage forms of drugs. 0711.23

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**24** Students will investigate methods of administering medications. 0711.24

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#### Drug Classification

**25** Students will demonstrate knowledge of mechanisms of drug actions within the body systems. 0711.25

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**26** Students will examine the basic structure and functions of the nervous system. 0711.26

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**27** Students will report uses, mechanism of action, side effects, and examples of the following drug classifications for: • CNS drugs: • sedative hypnotics. • skeletal muscle relaxants. • anticonvulsants. • narcotic analgesics. • antipsychotics. • antidepressants. • anti-anxiety agents. • CNS stimulants. • Anti-Parkinson's agents. • sympathomimetic agents. • sympatholytic agents. • parasympathomimetics agents. • parasympatholytic agents. • neuromuscular blocking agents. 0711.27

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**28** Students will chart the location of the major endocrine glands and their hormone secretion. 0711.28

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**29** Students will differentiate between local and systemic hormones. 0711.29

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- 30** Students will differentiate histamine and prostaglandins. 0711.30
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- 31** Students will report uses, mechanism of action, side effects, and examples of the following systemic hormones: --androgens. -estrogens. -progestins. -corticosteroids. -insulin. -oral hypoglycemics. -oxytocics. -thyroid hormones. -anti-thyroid hormones 0711.31
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- 32** Students will examine the basic structure and functions of the cardiovascular system. 0711.32
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- 33** Students will determine the meaning of arrhythmia and angina. 0711.33
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- 34** Students will report uses, mechanism of action, side effects, and examples of the following drug classifications for cardiovascular drugs: -cardiac glycosides. -antiarrhythmics. -antianginals. -vasodilators. -calcium channel blockers. -angiotensin-converting enzyme (ACE) inhibitors. -angiotensin II inhibitors. -beta-adrenergic blockers. -alpha-adrenergic blockers. -antilipidemic agents. 0711.34
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- 35** Students will examine the basic structure and functions of the renal system. 0711.35
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- 36** Students will determine the uses and mechanism of action of diuretics. 0711.36
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- 37** Students will report uses, mechanism of action, side effects, and examples of types of diuretics: -thiazides. -loop. -potassium sparing. -combination. -osmotics. 0711.37
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- 38** Students will characterize gout. 0711.38
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- 39** Students will report uses, mechanism of action, and side effects of gout agents:  
o Allopurinol. o Probenecid. o Colchicine. 0711.39
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- 40** Students will compare electrolytes. 0711.40
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- 41** Students will examine the uses, side effects, and examples of electrolytes. 0711.41
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- 42** Students will compare bacteriostatic and bacteriocidal. 0711.42
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- 43** Students will report uses, mechanism of action, and side effects of anti-infectives: -antibacterial. -urinary anti-infectives. -antibiotics. -Penicillins. -Cephalosporins. -quinolones. -macrolides. -Tetracyclines. -aminoglycosides. -antifungals. -antiparasitic agents. -antihelminthics. -amebicides. -antitubercular agents. -antiviral agents. 0711.43
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- 44** Students will characterize cancer. 0711.44
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- 45** Students will characterize Leucovorin. 0711.45

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- 46** Students will report uses, mechanism of action, and side effects of chemotherapy drugs: -antimetabolites. -alkylating agents. -hormones. -vinca alkaloids. -asparaginase. -antibiotics. 0711.46
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- 47** Students will examine the composition and functions of blood. 0711.47
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- 48** Students will determine the treatment for Iron Deficiency Anemia. 0711.48
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- 49** Students will determine the treatment for Megaloblastic Anemia. 0711.49
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- 50** Students will report uses, mechanism of action, and side effects of agents used in blood disorders: -anticoagulants. -hemostatics. -antithrombotics. -thrombolytics. -hemorrhologic agents. -antianemics. 0711.50
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- 51** Students will characterize vitamins. 0711.51
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- 52** Students will determine examples and uses of fat-soluble vitamins. 0711.52
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- 53** Students will determine examples and uses of water-soluble vitamins. 0711.53
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- 54** Students will distinguish minerals as related to normal body functions. 0711.54
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## Aseptic Techniques

- 55** Students will demonstrate knowledge of aseptic techniques 0711.55
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- 56** Students will demonstrate aseptic technique. 0711.56
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- 57** Students will determine the importance of aseptic technique to prevent contamination as it relates to personnel and the environment. 0711.57
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- 58** Students will establish the role of airflow equipment to prevent contamination. 0711.58
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- 59** Students will assess basic equipment for parenteral administration. 0711.59
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- 60** Students will examine methods of administering parenteral medications to include: -intra dermal -subcutaneous -intramuscular -intravenous 0711.60
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- 61** Students will examine composition of common parenteral fluids. 0711.61
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- 62** Students will examine compounding. 0711.62
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- 63** Students will characterize aseptic technique utilized by personnel prior to compounding procedures. 0711.63
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- 64** Students will determine the most common and important equipment for compounding. 0711.64
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- 65** Students will assess specific techniques and procedures utilized to avoid contamination assuring successful sterile product mixing. 0711.65

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- 66** Students will investigate the importance and process of visual inspection of parenteral products. 0711.66
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- 67** Students will examine components of a parenteral product label. 0711.67
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- 68** Students will characterize various solutions used in pharmacy to include: - irrigation -IV Piggy Back -Total Parenteral Nutrition (TPN) 0711.68
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- 69** Students will distinguish preparation, safe handling and administration of antineoplastic agents. 0711.69
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- 70** Students will evaluate use of Class II Biological Safety Cabinets (Vertical Airflow) and personal protective coverings. 0711.70
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- 71** Students will determine precautions necessary in the disposal of all items used in the preparation and administration of antineoplastic drugs. 0711.71
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- 72** Students will assess stability considerations in parenteral products. 0711.72
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- 73** Students will examine filtration in admixture preparation. 0711.73
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- 74** Students will report examples of parenteral product reference materials. 0711.74
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- 75** Students will demonstrate the steps of a typical parenteral admixture order work flow. 0711.75
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## Calculations

- 76** Students will demonstrate knowledge of mathematics in pharmacy 0711.76
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- 77** Students will solve conversions using the metric, avirdupois, apothecary and household systems. 0711.77
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- 78** Students will use charts, graphic illustrations and conversion tables to perform mathematical calculations. 0711.78
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- 79** Students will determine the meaning of commonly used abbreviations in prescriptions and medication orders. 0711.79
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- 80** Students will determine abbreviations, symbols or syntax that should be avoided. 0711.80
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- 81** Students will demonstrate the Roman Numeral system of writing numbers. 0711.81
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- 82** Students will apply placement rules when using Roman Numerals. 0711.82
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- 83** Students will apply mathematical computations related to pharmacy procedures. 0711.83

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- 84** Students will apply mathematical principle to conversion equations common to those used in the pharmacy. 0711.84
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- 85** Students will apply rules for decimals when writing drug doses. 0711.8590
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- 86** Students will apply mathematical principles involving temperature, weights and measures used in the pharmacy. 0711.86
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- 87** Students will apply mathematical principles to problems involving dosage calculations and other applied mathematical concepts. 0711.87
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- 88** Students will apply ratios and proportions to enlarge and reduce chemical mixtures used in the pharmacy. 0711.88
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- 89** Students will calculate amounts of drugs, chemical or solvents when enlarging and reducing formulas. 0711.89
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- 90** Students will examine units of measurement for drugs and expressions of quantity and concentration for drugs in drug products. 0711.90
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- 91** Students will differentiate methods for determining quantities of ingredients and concentration of drugs when preparing or dispensing drug products. 0711.91
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- 92** Students will calculate amounts of two solutions of different strengths which must be combined to get a third solution of a specified strength. 0711.92
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- 93** Students will calculate final strength of a diluted or mixed solution when given the original strength(s) and volume(s) and the final volume. 0711.93
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- 94** Students will distinguish methods of expressing doses and dosage regimens. 0711.94
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- 95** Students will calculate the amount of drug product to dispense a days supply from a dosage regime. 0711.95
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- 96** Students will calculate doses for pediatric patients using pediatric dosage information found in reference books. 0711.96
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- 97** Students will apply general rules for calculating an infant's or child's dose of medication when given the age or weight of the patient and the normal adult dose. 0711.97
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- 98** Students will determine the flow rate of an IV solution when given the total volume, total time of administration and the drops delivered per ml by the administration set. 0711.98
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- 99** Students will calculate powder volume and use calculation to reconstitute dry powders for suspension or solution. 0711.99
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- 100** Students will examine pricing methods used in retail pharmacy. 0711.100

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**101** Students will recognize the meaning of terms used in pricing methods. 0711.101

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**Pharmacy Operations**

**102** Students will demonstrate knowledge of daily operation of a pharmacy.  
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**103** Students will differentiate common pharmaceutical terms to include drug names, codes, expiration date formats, dispensing containers and closures. 0711.103

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**104** Students will determine considerations regarding authority to prescribe. 0711.104

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**105** Students will assess possible prescribers. 0711.105

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**106** Students will characterize general processes related to the dispensing and medication distribution in a traditional pharmacy. 0711.106

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**107** Students will examine the method of transmitting prescriptions to a pharmacy. 0711.107

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**108** Students will apply required patient confidentiality. 0711.108

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**109** Students will articulate the required contents of a prescription and medication order. 0711.109

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**110** Students will select information obtained from patients when receiving refill requests. 0711.110

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**111** Students will distinguish the process and information needed when calling prescribers for refill authorization. 0711.111

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**112** Students will demonstrate receiving electronic transmission of prescriptions. 0711.112

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**113** Students will differentiate patient information necessary for the patient profile. 0711.113

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**114** Students will relate the process required when entering prescription/medication information in the patient profile. 0711.114

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**115** Students will validate appropriate product selection (i.e. brand vs. generic). 0711.115

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**116** Students will assist the pharmacist in preparing and dispensing medications to include:  
o measuring and counting  
o calculation and verification  
o compounding  
o weighing  
o reconstituting  
o aseptic technique/iv admixtures  
o controlled substances 0711.116

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- 117** Students will prepare and package prescriptions and medication orders. 0711.117
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- 118** Students will relate information contained on a prescription label. 0711.118
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- 119** Students will report the advantages of the Unit Dose System. 0711.119
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- 120** Students will examine types of Unit Dose Systems. 0711.120
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- 121** Students will demonstrate the five “Rights” of medication. 0711.121
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- 122** Students will demonstrate the three check points utilized during the dispensing of a prescription. 0711.122
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- 123** Students will report the pharmacist’s accountability during dispensing of a prescription. 0711.123
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- 124** Students will articulate possible sources of medication errors. 0711.124
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- 125** Students will predict reporting procedures for medication errors. 0711.125
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- 126** Students will illustrate the use of supplemental patient information. 0711.126
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- 127** Students will examine key concepts and terms used in pharmacy inventory management. 0711.127
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- 128** Students will report ordering and receiving techniques. 0711.128
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- 129** Students will compare methods in managing inventory. 0711.129
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- 130** Students will assess ways prescription are numbered, dated and labeled. 0711.130
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- 131** Students will predict the role of the FDA in medication recall and adverse drug reaction. 0711.131
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- 132** Students will assess theft and drug diversion. 0711.132
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- 133** Students will examine methods of reimbursement and available payment plans. 0711.133
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- 134** Students will determine claims processing procedures using Universal Claim Forms (UCFs), paper claims, on-line claims and electronic adjudication. 0711.134
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- 135** Students will relate the components of drug utilization review. 0711.135
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- 136** Students will examine Reimbursement Formulary. 0711.136

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**137** Students will determine quantity restriction as it applies to preventing dispensing of unnecessary quantities. 0711.137

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**138** Students will establish steps for obtaining prior authorization. 0711.138

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**139** Students will relate the purpose of the signature log. 0711.139

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## Clinical Internship

**140** Students will demonstrate knowledge of requirements for participation in a clinical internship 0711.140

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**141** Students will demonstrate a working knowledge of internship eligibility requirements. 0711.141

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**142** Students will comply with required health regulations such as proof of physical examination and immunization status. 0711.142

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**143** Students will provide proof of personal health insurance. 0711.143

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**144** Students will wear proper clinical attire. 0711.144

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**145** Students will maintain mastery or above in attainment of standards in classroom theory and lab. 0711.145

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**146** Students will report to clinical site on time and ready to work. 0711.146

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**147** Students will notify clinical site and instructor when absent. 0711.147

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**148** Students will conform to policies regarding performance of skills and scope of responsibility. 0711.148

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**149** Students will correctly and safely perform entry-level procedures under supervision of a pharmacist. 0711.149

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**150** Students will request assistance or clarification as needed. 0711.150

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**151** Students will maintain professional standards including client confidentiality. 0711.151

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**152** Students will organize and effectively manage time. 0711.152

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**153** Students will complete documentation required of clinical internship accurately. 0711.153

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**154** Students will participate in clinical internship evaluation process. 0711.154

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