***Name: \_\_\_\_­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

***Syracuse Exercise Science & Sports Medicine***

***Comprehensive Study Guide***

***Syracuse Exercise Science & Sports Medicine***

***UNIT 1 – Introduction & Exploration of Therapeutic Careers***

OBJECTIVES

1. Explore a variety of therapeutic careers (including athletic training, physical therapy, occupational therapy, exercise physiology, sport psychology, dietician, orthopedic surgeon, massage therapist, chiropractor, strength and conditioning coach, and personal trainer).
2. List skills necessary.
3. Recognize education required.
4. Discuss career settings and job descriptions.
5. Examine legal issues and terminology.
6. Discuss parameters of ethical conduct.
7. Review preventive measures to reduce potential risks of litigation.
8. Explain legal issues and terminology
9. Outline standards of documentation.
10. Prepare a basic SOAP note.

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***UNIT 2 – Medical Terminology***

OBJECTIVES

1. Identify and utilize anatomical positions, planes, directional terms, movements, and postures.
2. Describe medical terminology, abbreviations, and root words identified.

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***UNIT 3 – Anatomy & Physiology***

## Skeletal System

OBJECTIVES

1. Identify major anatomical components and structures of the skeletal system.
2. Explain functions, disorders, and injuries to the skeletal system.

## Muscular System

OBJECTIVES

1. Identify major anatomical components and structures of the muscular system.
2. Explain functions, disorders, and injuries to the muscular system.

## Circulatory System

OBJECTIVES

1. Identify major anatomical components and structures of the circulatory system.
2. Explain functions, disorders, and injuries to the circulatory system.

## Respiratory System

OBJECTIVES

1. Identify major anatomical components and structures of the respiratory system.
2. Explain functions, disorders, and injuries to the respiratory system.

## Nervous System

OBJECTIVES

1. Identify major anatomical components and structures of the nervous system.
2. Explain functions, disorders, and injuries to the nervous system.

## Digestive System

OBJECTIVES

1. Identify major anatomical components and structures of the digestive system.
2. Explain functions, disorders, and injuries to the digestive system.

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***UNIT 4 – First Aid***

OBJECTIVES

1. Describe signs, symptoms, and management of potentially life-threatening and non-life-threatening injuries.
2. Describe the components of an emergency action plan.
3. Perform appropriate first aid skills.
4. Show proof of current CPR certification through the American Heart Association, American Red Cross, or National Safety Council.
5. Perform a primary and secondary survey.
6. Perform a general HIPS survey.
7. Accurately measure blood pressure, pulse, and respiration rate.
8. Perform procedures that control bleeding.
9. Fit crutches to any size individual.

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***UNIT 5 – Injury Prevention***

OBJECTIVES

1. Describe basic principles of injury prevention.
	1. Recognize types of protective equipment.
	2. Discuss the legal ramifications of manufacturing, buying, and issuing equipment.
2. Demonstrate the theory and principles of prophylactic taping and bracing.
	1. Competently tape an ankle within five minutes, using the standard prophylactic taping method.
	2. Competently tape a thumb within three minutes, using the standard prophylactic taping method.
	3. Competently tape an elbow hyper-extension within five minutes, using the standard prophylactic taping method.

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***UNIT 6 – Injury & the Healing Process***

OBJECTIVES

1. Describe the stages by which tissue healing occurs in soft tissue and bone.
2. Classify and explain the three degrees of tissue injury.
3. Analyze the causes of pain and its side effects.

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***UNIT 7 – Therapeutic Modalities & Injury Rehabilitation***

OBJECTIVES

1. Identify the physiologic effects, indications, and contraindications for cold, heat, massage, and stretching.
	1. Demonstrate the R.I.C.E. method for acute injuries.
	2. Demonstrate proper techniques of static stretching for all major muscle groups.
2. Classify the guidelines, components, and phases of a rehabilitation program.
3. Differentiate between the "Said", "Overload", and "Specificity" principles as they apply to conditioning and muscle training.
4. Identify a given exercise as an open or closed kinetic chain exercise.
5. Compare and contrast isometric, isotonic, and isokinetic exercise.

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***UNIT 8 – Sports Nutrition***

OBJECTIVES

1. Describe the basic components or body composition.
2. Examine the purpose and methods of fluid replacement.
3. Explain the purpose and recommendations for a pre and post game meal.
4. Identify the signs, symptoms, and side effects of anorexia and bulimia.
5. Compare and contrast several types of ergogenic aids, their physiological and psychological effects

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***UNIT 9 – Sports Psychology***

OBJECTIVES

1. Identify the immediate psychological responses of athletes to injury.
2. Classify the cycle of loss through which the athlete will move.
3. Discuss uses of psychological intervention.
4. Evaluate symptoms and interventions for over-training, staleness, and burn-out.

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***UNIT 10 – Performance Enhancement***

OBJECTIVES

1. Describe the assessment of strength, flexibility, and cardiovascular endurance with simple equipment.
2. Identify the methods of periodization.
3. Illustrate proper lifting and spotting techniques.
4. Differentiate training methods between power, speed, and endurance.