

ITEC Level 4 Unit 861 – Physiology of Ageing Recommended Minimum Guided Learning Hours – 64 Unit Accreditation Number: A/601/5349	
Learning outcome The Learner will: 1. Understand the nature of ageing	
Assessment Criteria	Taught Content
1.1 Describe the characteristics of ageing 1.2 Explain the differences between intrinsic and extrinsic environmental effects on the skin which contribute to the ageing process 1.3 Critically compare different theories of ageing 1.4 Explain the ageing process in cells and tissues	1.1.1 To include: ▪ Physical changes ▪ Psychological changes ▪ Biological aging ▪ Chronological ageing 1.2.1 Intrinsic to include: ▪ Senescence ▪ Heredity factors ▪ Chronologic age ▪ Free radicals ▪ MMP activation ▪ Hormones 1.2.2 Extrinsic to include: ▪ Environment ▪ Temperature changes ▪ UV light ▪ Pollution ▪ Diet ▪ Smoking ▪ Medication ▪ Alcohol ▪ Lifestyle ▪ Occupation ▪ Exercise ▪ Sleep ▪ Stress ▪ Relaxation ▪ Illness ▪ Medication ▪ Current regime 1.3.1 To include: Theories of ageing e.g. ▪ Evolutionary theories ▪ Programmed theories ▪ Immunological theory ▪ Wear and tear theory ▪ Cross-linking theory ▪ Free radical theory etc. 1.4.1 To include: Cells: ▪ Lipid loss ▪ Loss of function ▪ Mutation ▪ DNA damage Tissues: ▪ Atrophy ▪ Loss of function ▪ Waste accumulation ▪ Stiffness ▪ Degeneration

Learning outcome The Learner will: 2. Understand the causes and effects of ageing of the skin	
Assessment Criteria	Taught Content
2.1 Analyse the changes which occur to the repair mechanisms of the skin with ageing 2.2 Explain how ageing causes microscopic changes to the structure of skin 2.3 Evaluate the causes of changes to the skin when ageing 2.4 Explain pathological conditions of the skin which may occur as a result of ageing 2.5 Explain the ageing effect of UV on the skin 2.6 Recommend precautions to minimise damage caused by UV light	2.1.1 To include: ▪ Loss of cell function ▪ DNA damage ▪ Reduction in healing abilities ▪ Increase in healing time 2.2.1 To include: ▪ Epidermis ▪ Dermis ▪ Subcutaneous tissue/Hypodermis 2.3.1 To include: ▪ Biological ▪ Chronological ▪ Intrinsic ▪ Extrinsic 2.4.1 To include: ▪ Thin skin ▪ Pigmentation ▪ Elastosis ▪ Solar Elastosis ▪ Dehydrated skin ▪ Dry skin ▪ Loss of subcutaneous tissue - poor thermoregulation ▪ Haematomas ▪ Cherry angiomas ▪ Hyperplasia e.g. skin tags etc. ▪ Decreased cellular renewal ▪ Melanomas ▪ Allergies ▪ Increased incidence of skin disorders i.e. psoriasis, eczema ▪ Pressure ulcers ▪ Increased incidence of skin infections 2.5.1 To include: ▪ Light spectrum ▪ UVA ▪ UVB ▪ UVC ▪ Melanocytes ▪ Melanin production and function ▪ The effects of UV light exposure on the skin ▪ Effects of prolonged exposure 2.6.1 To include: ▪ Physical barriers e.g. hats, clothing ▪ Avoid or limit exposure ▪ Nutritional protection e.g. Vitamin C, antioxidants ▪ Time of exposure ▪ Sunscreens ▪ Sun Protection Factor (SPF)
Learning outcome The Learner will: 3. Understand the cause and effects of degenerative	

disorders as a result of the ageing process	
Assessment Criteria	Taught Content
<p>3.1 Explain possible causes of degenerative disorders and their effects on the:</p> <p>Skeletal system Muscular system Nervous system Cardiovascular system Immune system Respiratory system</p> <p>3.2 Describe contraindications to beauty therapy treatments when a degenerative disorder is present</p>	<p>3.1.1 To include:</p> <p>Skeletal system: ▪ Loss of bone mass ▪ Brittle bones ▪ Spinal curvature ▪ Postural deformities ▪ Joint degeneration ▪ Stiffness ▪ Fractures ▪ Osteo Arthritis ▪ Osteoporosis</p> <p>Muscular system: ▪ Atrophy ▪ Stiffness ▪ Inflammation ▪ Pain ▪ Polymyalgia rheumatica</p> <p>Nervous system: ▪ Loss of sensation ▪ Paresthesia ▪ Reduction in reflexes ▪ Alzheimer's disease ▪ Parkinson's disease ▪ Multiple sclerosis</p> <p>Cardiovascular system: ▪ Decrease in blood volume ▪ Thickening/hardening of blood vessels ▪ Atherosclerosis ▪ Cardiovascular diseases e.g. heart disease, angina, heart failure, Transient ischemic attacks (TIA) ▪ Hypertension ▪ Varicose veins ▪ Deep vein thrombosis</p> <p>Immune system: ▪ Reduction in immunity ▪ Reduction in lymphocytes ▪ Reduction in lymphatic circulation ▪ Rheumatoid Arthritis</p> <p>Respiratory system: ▪ Reduction in lung capacity ▪ Loss of lung tissue elasticity ▪ Pneumonia ▪ Emphysema</p> <p>3.2.1 To include:</p> <p>▪ Understanding of when medical, GP or Specialist permission is required ▪ Understanding when informed consent is required ▪ Understanding when contraindications restrict treatment ▪ Scope of practice ▪ Referral</p>
<p>Learning outcome The Learner will:</p> <p>4. Understand how beauty therapy treatments and products may delay the ageing process</p>	

