Diploma in Nutritional Therapy Year 1 Lecture Plan 2012–2013

Semester 1

Weekend 1 **HEALTH, HEALTHCARE AND DIETARY THERAPY** 22nd & 23rd September	**The History of Healthcare** **The Concept of Health:** Factors affecting health & healthcare **The modern Western diet and lifestyle** **Key Factors in Disease Progression in the West:** Immune dysfunction, free radical damage, stress, toxicity **Different Healthcare Models:** Orthodox, functional medicine, CAM **The Fundamentals of being an Nutritional Therapist and Dietary Coach** **The Importance of Research in Healthcare** **The Importance of Reflection in Independent Learning and in Healthcare Practice**
Weekend 2 **ANATOMY & PHYSIOLOGY PART 1** 20th & 21st October	**An introduction to A and P and Purpose of the Course** **Cell and Tissues** **Biochemistry** **Digestive System:** Gross anatomy, physiological functions, the accessory organs, the digestion of carbohydrates, proteins and fats, enzymes and their action in digestion, hormones and their action in digestion **Musculoskeletal System:** Bones, axial and appendicular skeleton, the major bones of the body, the anatomy and histology of compact and spongy bone, the process of ossification, bone growth, classification of joints, calcium homeostasis. **Muscles:** skeletal, cardiac and smooth muscle, neuromuscular junctions and skeletal muscle contraction **Genetics:** Genotypes, phenotypes, genes, inheritance, mutations **Enzymes:** Definition and mechanism of action, factors regulating enzyme function, coenzymes and cofactors, competitive and non-competitive inhibition **The Macronutrients and Metabolism:** energy production, specific metabolic pathways (glycolysis, citric acid cycle, electron transport chain), key molecules involved in the process of cellular respiration
Weekend 3 **THE BASICS OF NUTRITION PART 1** 17th & 18th November	**The Effects of Poor Digestion and Absorption on Health** **Bowel Flora and Health** **Supporting Digestion** **The Role of the Micronutrients in Energy Production** **Basal Metabolic Rate** **Calories** **Official Recommendations for Calorie Consumption** **Protein:** Chemical structure, amino acids, protein quality, recommended levels of consumption, deficiency and toxicity symptoms**,** dietary sources **Individual Amino Acids and their Specific Roles in the Body** **Protein Derivatives**
Weekend 4 **THE BASICS OF NUTRITION PART 2** 8th & 9th December	**Carbohydrates:** Chemical structure, mono, di- and polysaccharides, biological functions at a cellular level, recommended levels of consumption, carbohydrate as an energy source, glycaemic load, deficiency and toxicity symptoms, hypoglycaemia, diabetes, syndrome x, dietary sources **Lipids:** chemical structure, fatty acids, phospholipids, cholesterol, essentiality, quality, biological functions at a cellular level, recommended levels of consumption, lipids as an energy source, deficiency and toxicity symptoms, dietary sources **Overweight and Obesity:** Different nutrients and diets and their effects on weight loss and health, barriers to weight loss, the dietary coaching approach to weight loss, anorexia nervosa and bulimia, adverse effects of malnutrition
Weekend 5 **ANATOMY & PHYSIOLOGY PART 2** 12th & 13th January	**Endocrine System:** Intercellular communication, paracrine and autocrine systems, hormones, endocrine organs and glands, receptors, target cells **The Nervous System:** The functions of the nervous system, the structures of the nerve cell, classifications of the nervous system, the names and functions of the cranial nerves 1 to 12, the autonomic nervous system, neuroglia cells and functions, the blood-brain barrier, the function of the different lobes of the brain, the structure and functions of the spinal chord and meninges, the physiology of the nerve impulse, the structure and physiology of the synapse

Semester 2, Year 1

Weekend 6 **ANATOMY & PHYSIOLOGY PART 3** 9th & 10th February	**Reproductive system:** The anatomy and functions of the male reproductive organs, spermatogenesis, spermatogenesis, the anatomy and functions of the female reproductive tract, the menstrual cycle, the process of fertilisation, implantation, embryonic development, birth, lactation, the menopause **The special senses:** The sensory organs, their structure and functions, their pathways to the brain **Revision on systems completed so far**
Weekend 7 **ANATOMY & PHYSIOLOGY PART 4** 2nd & 3rd March	**Urinary System:** The gross anatomical and histological structure of the kidney, ureters, bladder, and urethra, the blood supply to the kidney, the structure of the nephron and its related functions, the basic process of urine formation **Electrolyte Balance:** Fluid balance, electrolyte balance, and acid-base balance, the compositions of intracellular and extracellular fluids and how this balance is maintained, the hormones, compensatory and buffering systems that play important roles in regulating fluid and electrolyte balance **Cardiovascular System:** The anatomy and physiology of the heart, the anatomical and histological structure and function of blood vessels, homeostasis of blood pressure, systole, diastole, cardiac cycle, heart sounds, the conduction system of the heart, cardiac output, stroke volume, heart rate (and factors influencing these) **Blood:** the key functions of the blood, the composition of blood and its components, different blood groups and typing
Weekend 8 **THE BASICS OF NUTRITION PART 3** 23rd & 24th March	**Minerals (Macro and Micro) and Vitamins:** Classification, chemical structure, transportation, utilisation, storage within the body, functions and interactions at a cellular level, ionic balance, recommended levels of intake, mineral/mineral antagonism, deficiency, imbalance and toxicity symptoms, dietary sources of each, bioavailability of dietary sources, interactions with other macro/micro nutrients affecting bioavailability, assessing individual needs for different minerals **The Phytonutrients:** Classification, chemical structure, transportation and storage within the body, functions and interactions at a cellular level, dietary sources of each, bioavailability of dietary sources, interactions with other macro/micro nutrients affecting bioavailability, potential for deficiency and toxicity **Nutritional Supplements:** How to use basic supplements for therapeutic gain, basic vitamin and mineral formulations, single supplements, nutrient complexes
Weekend 9 **ANATOMY & PHYSIOLOGY PART 5** 13th & 14th April	**Lymphatic System:** Functions and anatomical organization, the structure and function of the lymph vessels (lymph capillaries, lymphatics, lymph ducts), the structure and function of lymph nodes, thymus, tonsils, spleen and peyers patches **The Immune System:** Non-specific and specific defences, the components of the immune system, the different stages of inflammation, humoral immunity and cell-mediated immunity, hypersensitivity reactions, the healing process and scar formation **The Skin:** The structure and functions of skin **Respiratory System:** The anatomical components and functions of respiratory system, the mechanics of breathing, respiratory rate, respiratory volumes, gas exchange, the oxygen haemoglobin saturation curve, the control of respiration
Weekend 10 **THE BASICS OF NUTRITION PART 4** 11th & 12th May	**Food Groups:** Classification of foods (fruit, vegetables, grains, pulses, meat, dairy, nuts, seeds, fish), important sources of each, their composition, how they are processed, their effects on health – positive and negative, their place in a therapeutic diet **Healthy Alternatives to Common Foods:** Adding variety to the diet **Maximising the Nutrient Content of Food Groups e.g. Sprouting, Grinding, Soaking** **Common Anti-Nutrients:** Chemical additives and preservatives: sources, classifications, regulation, research **Natural Toxins:** Caffeine, Oxalates, Phytates, Tannins, Alkaloids, Goitrogens **Non Food Based Toxins:** smoking, cooking and storage vessels, medication **Reducing Toxins in the Diet and Lifestyle:** a basic introduction **Acid and Alkaline Balance in the Body**

Anatomy & Physiology Exam, Cooking Demonstration and Optional Weekends

Weekend 11 **ANATOMY & PHYSIOLOGY EXAM** **COOKING DEMONSTRATION** **NUTRITION IN SOCIETY PART 1*** 25th & 26th May	**Anatomy and Physiology Exam** **Cooking Demonstration** **The Effects of Cooking on Food:** The positives and negatives of cooking, raw food **Different Ways of Eating and their Effects on Health:** Macrobiotics, vegetarianism, lacto vegetarianism and veganism, raw food, cultural and ethical eating, the Mediterranean diet, the eastern approach to diet **Healthy Eating on a Budget** **Food Labelling** **Basic Novel Foods and how to use them** **Growing your own:** Vegetables, herbs, fruit **Whole Food Initiatives:** The slow food movement, GIY (Grow it yourself) **Introduction to Herbs used for Common Health Disorders** **Using herbs in Cooking, Teas etc:** over the counter remedies, safety when using herbs **Food - from Farm to Fork (Ireland):** Regulatory bodies, state departments and agencies, traceability, implications on our industry **Food Processing/Manufacturing Methods:** Past and present, effects on health, research to back up links to chronic disease, the future outlook **EU Food Regulation:** Governing bodies, general food law, policies and procedures **Organic food:** Organic food and health, nutrition in organic food, organic food and the environment, sustainable agriculture
Weekend 12 **NUTRITION IN SOCIETY PART 2*** 22nd & 23rd June	**The Physiology of and Nutrition for Different Groups of the Population:** Possible physiological, metabolic and endocrine changes **Vulnerable Groups:** The elderly, children, babies, infants, adolescents, pregnancy and lactation, the chronically ill/injured, lower socio economic groups, sports enthusiasts **The Effects of Diet on Common Disorders:** Digestive disorders, heart disease, immune disorders, inflammatory conditions, frequent infections, hormonal imbalances, skin conditions, osteoporosis, headache and migraine, stress related disorders **Using Questionnaires for Dietary Coaching** **Producing Diet Plans and Fact Sheets** **Case Studies** **Counselling Skills** **Managing Resistance to Change**

*Students wanting to qualify for the Certificate in Dietary Coaching in the first year must attend the Nutrition in Society lectures

Anatomy & Physiology exam date is 25th May 2013

Lecture Plan last revised Jan 2012. Please note that all dates are subject to change if required by IHS

Diploma in Nutritional Therapy Year 2 Lecture Plan 2012–2013

Semester 1

Weekend 1 **PATHOPHYSIOLOGY PART 1** 22nd & 23rd September	**Diseases and disorders of the immune and lymphatic systems** **Diseases and disorders of the digestive system** **Diseases and disorders of the cardiovascular system** **Diseases and disorders of the skin** **Revision of each associated system**
Weekend 2 **NUTRITIONAL THERAPEUTICS PART 1** 20th & 21st October	**Interpreting a case study using the functional medicine model** **Using functional medicine paperwork in practice** **Key functional medicine imbalances:** Digestive and absorptive, microbiological **Imbalances of the different phases of digestion and different sections of the digestive tract** **Bowel flora:** Classifications of the bacteria in the human gut, the balance between lactose fermenters and other non beneficial bowel bacteria, functions of the lactose fermenters, effects on health of non beneficial bacteria overgrowth, dietary and lifestyle effects on bowel flora composition, bowel flora supplementation **Supporting and modulating the digestive system with diet and nutrients**
Weekend 3 **PATHOPHYSIOLOGY PART 2** 17th & 18th November	**Diseases and disorders of the endocrine system** **Diseases and disorders of the nervous system** **Diseases and disorders of the reproductive system** **Diseases and disorders of the musculoskeletal system** **Revision of each associated system**
Weekend 4 **NUTRITIONAL THERAPEUTICS PART 2** 8th & 9th December	**Key functional medicine imbalances:** Detoxification and biotransformation, oxidation reduction imbalances **Detoxification and toxic elimination:** Movement of toxins into and out of the body, phase 1 and 2 detoxification pathways, problems with imbalances in the detoxification pathways, effects of toxicity on different systems of the body, affects of toxicity on cellular function **Acid and alkaline balance in the body** **Free radicals:** external sources and internal production, antioxidant defence mechanisms **Supporting and modulating the detoxification and antioxidant systems with diet and nutrients**
Weekend 5 **NUTRITIONAL THERAPEUTICS PART 3** 12th & 13th January	**Key functional medicine imbalances:** Immunological and inflammatory **Th1-Th2 imbalances and associated conditions:** Inflammation, intolerances/allergies, autoimmune conditions, effects of immune system imbalances on other systems of the body **Supporting and modulating the immune system with diet and nutrients**

Semester 2, Year 2

Weekend 6 **CLINICAL PRACTICE** 9th & 10th February	**Case studies and group activities:** Joint class with 3rd year students
Weekend 7 **NUTRITIONAL THERAPEUTICS PART 3** 2nd & 3rd March	**Functional medicine imbalances:** Structural + hormonal and neurotransmitter **How stress affects the endocrine and nervous systems:** The physiological effects of chronic stress, the HPA axis and general adaptation syndrome, the effects of stress on different systems of the body **Blood sugar imbalances and their impact on health** **Thyroid hormone imbalances and their impact on health** **Reproductive hormone imbalances** **Individual neurotransmitter imbalances and their impact on health** **Common structural imbalances** **Supporting and modulating the endocrine and nervous systems:** Plus different structures in the body with diet and nutrients
Weekend 8 **PATHOPHYSIOLOGY PART 3** 23rd & 24th March	**Diseases and disorders of the endocrine system** **Diseases and disorders of the nervous system** **Diseases and disorders of the reproductive system** **Diseases and disorders of the musculoskeletal system** **Revision of each associated system**
Weekend 9 **CLINICAL PRACTICE** 13th & 14th April	**Case studies and group activities:** Joint class with 3rd year students
Weekend 10 **PATHOPHYSIOLOGY EXAM &** ***NUTRITION IN SOCIETY PART 1** 25th & 26th May	**Pathophysiology exam (Saturday morning)** **Cooking demonstration (Saturday afternoon)** **The effects of cooking on food:** The positives and negatives of cooking, raw food **Maximising the nutrient content of food groups e.g. sprouting, grinding, soaking** **Healthy eating on a budget** **Food labelling** **Basic novel foods and how to use them** **Growing your own:** Vegetables, herbs, fruit **Wholefood initiatives:** The slow food movement, GIY (Grow it yourself) **Introduction to herbs used for common health disorders** **Using herbs in cooking, teas etc, over the counter remedies, safety** **Food - from farm to fork (Ireland):** Regulatory bodies, state departments and agencies, traceability, implications on our industry **Food processing/manufacturing methods:** Past and present, effects on health, research to back up links to chronic disease, the future outlook **EU food regulation:** Governing bodies, general food law, policies and procedures **Organic food:** Health and the environment, sustainable agriculture
Weekend 11 ***NUTRITION IN SOCIETY PART 2** 22nd & 23rd June	**The physiology of and nutrition for different groups of the population:** Possible physiological, metabolic and endocrine changes **Vulnerable groups:** The elderly, children, babies, infants, adolescents, pregnancy and lactation, the chronically ill/injured, lower socio economic groups, sports enthusiasts **The effects of diet on common disorders:** Digestive disorders, heart disease, immune disorders, inflammatory conditions, frequent infections, hormonal imbalances, skin conditions, osteoporosis, headache and migraine, stress related disorders **Using questionnaires for Dietary Coaching:** Producing diet plans and fact sheets **Case studies** **Counselling skills**

*Attendance required for those who did not complete this module in year 1

Diploma in Nutritional Therapy Year 3 Lecture Plan 2012–2013

Semester 1

Weekend 1 PRACTITIONER DEVELOPMENT PART 1 22nd & 23rd September	**The patient practitioner relationship:** Initiating the consultation, confidentiality, record keeping, duty of care, informed and implied consent, professionalism and approach, building rapport, questioning techniques, chunking and checking etc, verbal and non verbal communication, body language, active listening, boundary setting **Taking a case history:** The use of questionnaires, obtaining relevant and important information, time management, implied and informed consent **Reflection in Practice:** How to use the reflective process
Weekend 2 PRACTITIONER DEVELOPMENT PART 2 20th & 21st October	**Using research to inform your interpretations and clinical decisions:** Different types of research and their relevance to healthcare, differentiating between qualitative and quantitative research, understanding basic research and review articles, sampling, bias **Interpreting case histories:** Assessing the antecedents, triggers and mediators in different cases, differential diagnosis, assessing cases using the functional medicine model and key imbalances **Obtaining information on pathologies and diseases**
Weekend 3 NUTRITIONAL THERAPEUTICS 2 PART 1 17th & 18th November	**Choosing appropriate supplements:** Assessing quality, practitioner products, advanced supplements **Special nutrients, including:** Aloe vera, Algae, Glucosamine and chondroitin, HCL, Digestive enzymes, Individual amino acids, Mushroom preparations **Novel and functional foods:** The inclusion of specific foods with particular therapeutic properties: juices, culinary herbs, spices, antioxidant foods, seaweeds, fermented foods **EU regulation of the health food and natural healthcare industry:** The food vs. medicinal law, the supplements directive, the nutrition and health claims directive, the traditional herbal medicinal products directive, the human medicinal products directive
Weekend 4 NUTRITIONAL THERAPEUTICS 2 PART 2 8th & 9th December	**Designing your therapeutic diet and supplement programme – 1st consultations and follow-ups:** Considerations and limitations, acknowledging potential side effects to dietary and supplement programme **Formatting dietary and supplement information for your client:** How much information to give, how specific do you need to be, clarity of explanations **Follow-up consultations:** Dietary and supplement protocols **Referrals and collaboration:** Identifying when referral to or collaboration with another health care professional is necessary, handling deferrals, **Managing a case with other healthcare professionals:** GPs, other alternative practitioners
Weekend 5 CLINICAL PRACTICE 12th & 13th January	**The application of Nutritional Therapy:** Protocols for individuals **Nutrition in common conditions:** Differential diagnosis, Dietary, lifestyle and supplement protocols **Case studies involving:** Overweight and obesity, inflammation and immune dysregulation, CVD, digestive complaints, musculoskeletal conditions, hormonal imbalances, chronic stress

Semester 2, Year 3

Weekend 6 **CLINICAL PRACTICE** 9th & 10th February	**Case studies and group activities:** Joint class with 2nd year students **License to practise** **Live cases**
Weekend 7 **PHARMACOLOGY AND DIAGNOSTIC TESTS PART 1** 2nd & 3rd March	**Diagnostic tests:** Recognising and understanding when to use basic diagnostic biochemical tests, basic biochemical tests, in-clinic tests, orthodox tests **Referring a client for tests:** How to organise blood tests etc
Weekend 8 **PHARMACOLOGY & DIAGNOSTIC TESTS PART 2** 23rd & 24th March	**Common prescription drugs:** e.g. Warfarin, beta blockers, NSAIDS, anti-depressants - pharmacodynamics, pharmacokinetics, side effects and contra indications, factors affecting variability of their action on individuals **Drug/nutrient/herb interactions:** Recognising the consequences of interactions between foods, nutriceuticals, herbal medicines and drugs **Working with GPs to overcome problems** **Using essential reference texts:** i.e. The BNF, MIMS, PDR
Weekend 9 **CLINICAL PRACTICE** 13th & 14th April	**License to practise** **Live cases:** Joint class with 2nd year students
Weekend 10 **CLINICAL PRACTICE** 11th & 12th May	**Case studies and group activities** **License to practise** **Live cases** **Introduction to Year 4 clinical practice module**
Weekend 11 **COOKING DEMONSTRATION** 25th May	**Optional Cooking Demonstration (Saturday afternoon):** Joint class with 1st and 2nd year students

Repeat Exam Date is 25th May 2012 (Saturday morning)

Please note – there is no exam in year 3 except for those students needing to repeat exams

Lecture Plan last revised Jan 2012. Please note that all dates are subject to change if required by IHS