Qualifi Level 7 Diploma in Integrative Sport and Exercise Nutrition

Qualification Specification

April 2026

Contents

Contents 2

About QUALIFI 4

Why Choose QUALIFI Qualifications? 4

Employer Support for the Qualification Development 4

Equality and Diversity 4

Qualification Title and Accreditation Number 5

Qualification Aims and Learning Outcomes 5

Aims of the QUALIFI Level 7 Diploma in Integrative Sport and Exercise Nutrition 5

Learning Outcomes of the QUALIFI Level 7 Diploma in Integrative Sport and Exercise Nutrition 6

Delivering the Qualification 6

External Quality Assurance Arrangements 6

Learner Induction and Registration 7

Entry Criteria 7

Recognition of Prior Learning 8

Data Protection 8

Learner Voice 8

Professional Development and Training for Centres 8

Progression and Links to other QUALIFI Programmes 9

Qualification Structure and Requirements 9

Credits and Total Qualification Time (TQT) 9

Rules of Combination for QUALIFI Level 7 Diploma in Integrative Sport and Exercise Nutrition 10

Achievement Requirements 11

Awarding Classification/Grading 11

Assessment Strategy and Methods 11

Unit Specifications 13

Unit ISN701: Integrative Body Systems in Sports Nutrition 13

Unit ISN702: Applied Performance Nutrition 17
Unit ISN703: Hypertrophy for Sport and Exercise 21
Unit ISN704: Gastrointestinal Health in Athletes 23
Unit ISN705: Harnessing Mitochondrial Energy for the Athlete 25
Unit ISN706: Ergogenic Aids for the Athlete 27
Unit ISN707: Natural Sports Cookery 29
Unit ISN708: 'Healthspan' - Functional Health of an Ageing Athlete 31
Unit ISN709: Health and Physical Success of Female Athletes 33
Unit ISN710: Musculoskeletal Nutrition Support in Sport 35
Unit ISN711: Relative Energy Deficiency in Sport (REDs) 38
Unit ISN712: A Mind-Body Perspective in Sport 41
Unit ISN713: Mentoring and Case Studies Programme 43
Unit HC 550: Capstone Research and Project 46
Contact Details 48

About QUALIFI

QUALIFI is recognised and regulated by Ofqual (Office of Qualifications and Examinations Regulator). Our Ofqual reference number is RN5160. Ofqual regulates qualifications, examinations, and assessments in England.

As an Ofqual recognised Awarding Organisation, QUALIFI is required to carry out external quality assurance to ensure that centres approved for the delivery and assessment of QUALIFI's qualifications meet the required standards.

Why Choose QUALIFI Qualifications?

QUALIFI qualifications aim to support learners to develop the necessary knowledge, skills and understanding to support their professional development within their chosen career and or to provide opportunities for progression to further study.

Our qualifications provide opportunities for learners to:

- apply analytical and evaluative thinking skills.
- develop and encourage problem solving and creativity to tackle problems and challenges.
- exercise judgement and take responsibility for decisions and actions.
- develop the ability to recognise and reflect on personal learning and improve their personal, social, and other transferable skills.

Employer Support for the Qualification Development

During the development of this qualification QUALIFI consults with a range of employers, providers, and existing centres where applicable, to ensure rigour, validity, and demand for the qualification and to ensure that the development considers the potential learner audience for the qualification and assessment methods.

Equality and Diversity

QUALIFI's qualifications are developed to be accessible to all learners who are capable of attaining the required standard. QUALIFI promotes equality and diversity across aspects of the qualification process and centres are required to implement the same standards of equal opportunities and ensure teaching and learning are free from any barriers that may restrict access and progression.

Learners with any specific learning need should discuss this in the first instance with their approved centre who will refer to QUALIFI's Reasonable Adjustment and Special Consideration Policy.

Qualification Title and Accreditation Number

This qualification has been accredited to the Regulated Qualification Framework (RQF) and has its own unique Qualification Accreditation Number (QAN). This number will appear on the learner's final certification document. Each unit with the qualification has its own RQF code. The QAN for this qualification is as follows:

QUALIFI Level 7 Diploma in Integrative Sport and Exercise Nutrition-610/3609/2

Qualification Aims and Learning Outcomes

Aims of the QUALIFI Level 7 Diploma in Integrative Sport and Exercise Nutrition

The aim of the QUALIFI Level 7 Diploma in Integrative Sport and Exercise Nutrition is to provide learners with a deeper academic understanding of a health-based-performance approach to sports nutrition application within a sports and exercise setting. Additionally, learners will develop and nurture practical skills for a career in sport and exercise nutrition practice.

Successful completion of the QUALIFI Level 7 Diploma in Integrative Sport and Exercise Nutrition provides learners with the opportunity to progress to further study, enter employment, or to specialise further within their role as a health, wellness, or sports practitioner.

The QUALIFI Level 7 Diploma in Integrative Sport and Exercise Nutrition aims to give learners the opportunity to:

1. Gain a recognised qualification from an internationally recognised Awarding Organisation.
2. Learn from a syllabus that reflects cutting edge changes occurring in the sport and exercise nutrition world.
3. Have access to an online learning platform, complete with resources that can deepen personal research and progression.
4. Progress along a pathway to gain a recognised postgraduate qualification.
5. Apply sport and exercise nutrition practices in a variety of settings, including private clinics, sports medicine centres, sports clubs, health clubs, health educational facilities, private practice, corporations, and schools.
6. See a variety of consultation styles from highly experienced practitioners, that can help the learner to develop their own way of working with clients.

7. Practise case studies in a supportive clinical environment and receive balanced feedback and suggestions.
8. Have the opportunity to be part of an alumni of practitioners who are shaping the future paradigm(s) of sport and exercise nutrition.

Learning Outcomes of the QUALIFI Level 7 Diploma in Integrative Sport and Exercise Nutrition

The overall learning outcomes of the qualification are for learners to:

1. Gain a comprehensive knowledge of physiological body systems within the context of the pressures of exercise training and sporting competitions.
2. Learn clinical skills that enable them to support the body systems of athletic clients with nutrition, exercise and lifestyle advice.
3. Understand quantitative approaches to sports nutrition, including caloric estimations, macronutrient ratios, and micronutrients needs, while respecting the limitations of these methods within the context of personalised interventions.
4. Gain clinical practice by participating in client consultations, conducted by very experienced nutrition practitioners, plus engaging in their own case study consultations.
5. Broaden their scope of practice, and to potentially begin the process of specialism as kindled by one or more of the specialist topics in the course.
6. Delve into the deeper aspects of becoming a successful sporting practitioner, including working with the psychology and greater ecosystem of an athletic client.

The learning outcomes and assessment criteria for each unit are outlined in the Unit Specifications.

Delivering the Qualification

External Quality Assurance Arrangements

All centres are required to complete an approval process to be recognised as an approved centre. Centres must have the ability to support learners. Centres must commit to working with QUALIFI and its team of External Quality Assurers (EQAs). Approved Centres are required to have in place qualified and experienced tutors, all tutors are required to undertake regular continued professional development (CPD).

Approved centres will be monitored by QUALIFI External Quality Assurers (EQAs) to ensure compliance with QUALIFI requirements and to ensure that learners are provided with appropriate learning opportunities, guidance, and formative assessment.

QUALIFI's guidance relating to invigilation, preventing plagiarism and collusion will apply to centres.

Learner Induction and Registration

Approved Centres should ensure all learners receive a full induction to their study programme and the requirements of the qualification and its assessment.

All learners should expect to be issued with the course handbook, a timetable and meet with their personal tutor and fellow learners. Centres should assess learners carefully to ensure that they are able to meet the requirements qualification and that if applicable appropriate pathways or optional units are selected to meet the learner's progression requirements.

Centres should check the qualification structures and unit combinations carefully when advising learners. Centres will need to ensure that learners have access to a full range of information, advice, and guidance to support them in making the necessary qualification and unit choices. During recruitment, approved centres need to provide learners with accurate information on the title and focus of the qualification for which they are studying.

All learners must be registered with QUALIFI within the deadlines outlined in the QUALIFI Registration, Results and Certification Policy and Procedure.

Entry Criteria

Approved Centres are responsible for reviewing and making decisions as to the applicant's ability to complete the learning programme successfully and meet the demands of the qualification. The initial assessment by the centre, will need to consider the support that is readily available or can be made available to meet individual learner needs as appropriate.

The qualification has been designed to be accessible without artificial barriers that restrict access, for this qualification applicants must be aged 20 or over.

Entry to the qualification will be through centre interviews and applicants will be expected to hold a Level 6 qualification. In certain circumstances learners who have relevant industry knowledge may be gain entry to the qualification.

In the case of applicants whose first language is not English, then IELTS 6 (or equivalent) is required. International qualifications will be checked for appropriate enrolment to UK higher education postgraduate programmes where applicable. The applicants are normally required to produce two supporting references, at least one of which should preferably be academic.

Recognition of Prior Learning

Recognition of Prior Learning (RPL) is a method of assessment (leading to the award of credit) that considers whether learners can demonstrate that they can meet the assessment requirements for a unit through knowledge, understanding or skills they already possess, and so do not need to develop through a course of learning.

QUALIFI encourages centres to recognise learners' previous achievements and experiences whether at work, home or at leisure, as well as in the classroom. RPL provides a route for the recognition of the achievements resulting from continuous learning. RPL enables recognition of achievement from a range of activities using any valid assessment methodology. Provided that the assessment requirements of a given unit or qualification have been met, the use of RPL is acceptable for accrediting a unit, units, or a whole qualification.

Evidence of learning must be valid and reliable. For full guidance on RPL please refer to QUALIFI's *Recognition of Prior Learning Policy*.

Data Protection

All personal information obtained from learners and other sources in connection with studies will be held securely and will be used during the course and after they leave the course for a variety of purposes and may be made available to our regulators. These should be all explained during the enrolment process at the commencement of learner studies. If learners or centres would like a more detailed explanation of the partner and QUALIFI policies on the use and disclosure of personal information, please contact QUALIFI via email support@QUALIFI-international.com

Learner Voice

Learners can play an important part in improving the quality through the feedback they give. In addition to the on-going discussion with the course team throughout the year, centres will have a range of mechanisms for learners to feed back about their experience of teaching and learning.

Professional Development and Training for Centres

QUALIFI support its approved centres with training related to our qualifications. This support is available through a choice of training options offered through publications or through customised training at your centre.

The support we offer focuses on a range of issues including:

- planning for the delivery of a new programme

- planning for assessment and grading
- developing effective assignments
- building your team and teamwork skills
- developing learner-centred learning and teaching approaches
- building in effective and efficient quality assurance systems.

Please contact us for further information.

Progression and Links to other QUALIFI Programmes

Completing the **QUALIFI Level 7 Diploma in Integrative Sport and Exercise Nutrition** will allow learners to progress to:

- A university partner, where they can complete a further 60 credits to receive a full master's degree
- Directly into employment in an associated profession.

Qualification Structure and Requirements

Credits and Total Qualification Time (TQT)

The QUALIFI Diploma in Integrative Sport and Exercise Nutrition is made up of 120 credits which equates to 1200 hours of TQT.

Total Qualification Time (TQT) is an estimate of the total amount of time that could reasonably be expected to be required for a learner to achieve and demonstrate the achievement of the level of attainment necessary for the award of a qualification.

Examples of activities that can contribute to Total Qualification Time include guided learning, independent and unsupervised research/learning, unsupervised compilation of a portfolio of work experience, unsupervised e-learning, unsupervised e-assessment, unsupervised coursework, watching a prerecorded podcast or webinar, unsupervised work-based learning.

Guided Learning Hours (GLH) are defined as the time when a tutor is present to give specific guidance towards the learning aim being studied on a programme. This definition includes lectures, tutorials, and supervised study in, for example, open learning centres and learning workshops, live webinars, telephone tutorials or other forms of e-learning supervised by a tutor in real time. Guided learning includes any supervised assessment activity; this includes invigilated examination and observed assessment and observed work-based practice.

Rules of Combination for QUALIFI Level 7 Diploma in Integrative Sport and Exercise Nutrition

Learners are required to complete all four mandatory units plus four of the optional specialty units.

Unit Reference	Mandatory Units	Level	TQT	Credit	GLH
R/650/9564	Integrative Body Systems in Sports Nutrition	7	160	16	40
T/650/9565	Applied Performance Nutrition	7	160	16	40
Y/650/9566	Mentoring and Case Studies Programme	7	300	30	200
R/616/8934	Capstone Research and Project	7	300	30	120
Unit Reference	**Optional Units**	**Level**	**TQT**	**Credit**	**GLH**
A/650/9567	Hypertrophy for Sport and Exercise	7	70	7	20
D/650/9568	Gastrointestinal and Immune Health in Athletes	7	70	7	20
F/650/9569	Harnessing Mitochondrial Energy for the Athlete	7	70	7	20
K/650/9570	Ergogenic Aids for the Athlete	7	70	7	20
L/650/9571	Natural Sports Cookery	7	70	7	20
M/650/9572	'Healthspan' - Functional Health of an Ageing Athlete	7	70	7	20
R/650/9573	Health and Physical Success of Female Athletes	7	70	7	20
T/650/9574	Musculoskeletal Nutrition Support in Sport	7	70	7	20

Y/650/9575	Relative Energy Deficiency in Sport (REDs)	7	70	7	20
A/650/9576	A Mind-body Perspective in Sport	7	70	7	20
		Total	**1200**	**120**	**480**

Achievement Requirements

Learners must demonstrate they have met all assessment criteria for all units to achieve this qualification. QUALIFI will issue certificates to all successful learners via their registered centres.

Awarding Classification/Grading

All unit grading is shown on the qualification transcript.

Fail - 0-39%
Pass - 40%-59%
Merit - 60% - 69%
Distinction 70%+

All units will be internally assessed through written assignment, internally marked by the QUALIFI approved centre and subject to external quality assurance by QUALIFI.

Assessment Strategy and Methods

This qualification is vocational and can support a learner's career progression. To meet QUALIFI's aim to provide an appropriate assessment method, each unit will be assessed through realistic 'real life' case study related written tasks. Learners will need to demonstrate knowledge and understanding of the academic material from the Unit, along with original creative thought and problem solving, plus they will need to provide recommendations based on the assignment and case scenario. Intellectual rigour will be expected that is appropriate to the level of the qualification.

The assignment tasks will address Learning Outcome and Assessment Criteria requirements, all of which must be demonstrated/passed in order to achieve the qualification. These tasks will enable learners to draw on 'work-related 'information and/or examples wherever possible. Some assessment tasks will contain a practical assignment, which will require observation by an assessor.

The assessment tasks will require learners to draw on real life scenarios and case studies to illustrate their answers. To support this activity during the programme of learning, centres are required to make sure that they include case studies of relevant individuals and, wherever possible, encourage learners to draw on work-place opportunities to undertake research and investigation to support their learning.

Learner assessments will be internally marked by the Approved Centre and will be subject to external moderation by QUALIFI prior to certification.

Please contact Qualifi for further information.

Unit Specifications

Unit ISN701: Integrative Body Systems in Sports Nutrition

Unit code: R/650/9564

RQF Level: 7

Unit Aim

In this first unit of the course, learners will have the opportunity to look in-depth at a body system view of integrative health within a sports context. Learners will explore personalised sports nutrition, gastrointestinal health, detoxification, immunology, neuroendocrine physiology, and musculoskeletal health in sporting practice.

Working within the paradigm of 'health feeds performance', learners will be expected, as the course develops, to bring their theoretical knowledge of body system health into a practical setting of an athlete's overall ecosystem and unique performance challenges. To support this, learners will source and research information, discuss their findings and issues in class, and then apply their knowledge and understanding to case study scenarios.

Learning Outcomes and Assessment Criteria

Learning Outcomes When awarded credit for this unit, a learner will:	**Assessment Criteria** Assessment of this learning outcome will require a learner to demonstrate that they can:	
1. Understand the integrative and personalised way of working within sports nutrition.	1.1	Discuss working in a functional body-systems way, including the importance of individuality.
	1.2	Assess the connections between imbalanced body system health and reduced athletic performance.
	1.3	Analyse the individual ecosystem of an athlete's life and its incorporation into their overall clinical thinking.
2. Understand the strategies athletes use to help their	2.1	Explain the physiology of the gastrointestinal (GI) and detoxification systems.

gastrointestinal and detoxification functions.	2.3	Assess the pressures that exercise training exerts on gastrointestinal (GI) and detoxification health.
	2.2	Analyse, using examples, the importance of a healthy GI and detoxification system for an active person.
	2.4	Provide appropriate dietary and lifestyle advice for GI and detoxification health for a given client.
3. Understand strategies used to support athlete immunity and exercise-induced MS damage.	3.1	Explain the physiology of the immune and musculoskeletal (MS) systems.
	3.2	Assess the acute and chronic effects of exercise training on an athlete's immune and MS systems.
	3.3	Analyse, using examples, the importance of nutrient provision for supporting immunological and musculoskeletal health.
	3.4	Provide appropriate dietary and lifestyle advice for immune and MS health for a given client.
4. Understand integrative health strategies that support neuroendocrine and cardiorespiratory systems.	4.1	Explain the physiology of the neuroendocrine and cardiorespiratory systems.
	4.2	Assess how excessive exercise workloads disrupt the neuroendocrine and cardiorespiratory systems, and induce fatigue and physiological imbalance.
	4.3	Analyse the physiological contributors to nervous, endocrine, and mitochondrial health and imbalance.

	4.4	Provide appropriate dietary and lifestyle advice for neuroendocrine and cardiorespiratory health a given client
5. Understand how functional medicine clinical practices improve an athlete's overall health and performance.	5.1	Discuss the key factors in establishing a strong relationship with an athletic client.
	5.2	Analyse antecedents, triggers and mediators (ATMs) within the overall timeline of an athlete's health.
	5.3	Recommend safe and realistic dietary and lifestyle changes for clients

Suggested Resources

Textbooks

- Jones D (2006). *Textbook of Functional Medicine.* Institute of Functional Medicine.
- Borer, KT (2013). *Advanced Exercise Endocrinology* (Advanced Exercise Physiology). Human Kinetics.

Required Reading

- Minich DM, Bland JS (2013). Personalized lifestyle medicine: relevance for nutrition and lifestyle recommendations. *Scientific World Journal*. 2013:129841.
- Tucker R (2016). Low carbohydrate diets: A plea for balance, scientific rigour & death to dogma. *The Science of Sport*. https://sportsscientists.com/2016/04/low-carbohydrate-diets-plea-balance-scientific-rigour-death-dogma/ (accessed online May 2022)
- Craig I (2016). The changing face of sports nutrition. *Functional Sports Nutrition*. May/June 2016: 8-10.
- Havemann L et al (2006). Fat adaptation followed by carbohydrate loading compromises high-intensity sprint performance. *J Appl Physiol*. 100:194 –202.
- Masuo K et al (2005). Rebound weight gain as associated with high plasma norepinephrine levels that are mediated through polymorphisms in the β2-adrenoceptor. *AJH*. 18:1508–1516.

- Ahmetov II et al (2015). Genome-wide association study identifies three novel genetic markers associated with elite endurance performance. *Biol. Sport*. 32:3-9.
- Caris-Harris K (2018). Exercise-induced gastrointestinal dysfunction in endurance athletes. *Functional Sports Nutrition*. July/Aug 2018:8-10.
- Mach N, Fuster-Botellaa D (2017). Endurance exercise and gut microbiota: A review. *J Sport Health Sci.* 6(2):179–197.
- Pall ML, Levine S (2015). Nrf2, a master regulator of detoxification and also antioxidant, anti- inflammatory and other cytoprotective mechanisms, is raised by health promoting factors. *Acta Physiologica Sinica*. 67(1):1–18.
- Hodges RE, Minich DM (2015). Modulation of Metabolic Detoxification Pathways Using Foods and Food-Derived Components: A Scientific Review with Clinical Application. *J Nutr Metab*. 2015:760689.
- Craig I (2012). The connectivity of injuries. *Total Sports Nutrition*. Oct/Nov 2012:19-21.
- Perry L (2004). Nutritional support for the three phases of care. *Applied Nutritional Science Reports*. 799 4/04.
- Walsh NP (2018). Recommendations to maintain immune health in athletes. *Eur J Sport Sci*. 18(6):820-831.
- Moir H (2012). Relieve these aches and pains with a refreshing fruit smoothie. *Functional Sports Nutrition*. May/June 2012:12-13.
- Craig I (2016). Harnessing your nervous energy. *Functional Sports Nutrition*. Jul/Aug 2016:8-10.
- Cadegiani FA and Kater CE (2017). Hypothalamic-pituitary-adrenal (HPA) axis functioning in overtraining syndrome: Findings from endocrine and metabolic responses on overtraining syndrome (EROS)-EROS-HPA axis. *Sports Med Open*. 3(1):45.
- Mountjoy M et al (2018). The IOC consensus statement: beyond the Female Athlete Triad—Relative Energy Deficiency in Sport (RED-S). *Br J Sports Med*. 48:491–497.
- Powers SK et al (2020). Exercise-induced oxidative stress: Friend or foe? *J Sport Health Sci*. 9(5):415-425.
- O'Keefe JH (2012). Potential adverse cardiovascular effects from excessive endurance exercise. *MayoClinProc*. 87(6):587-595.
- Heath B (2014). The art of medicine. *Lancet*. 384:838–839 and 848–849.
- Ramsay DS, Woods SC (2014). Clarifying the roles of homeostasis and allostasis in physiological regulation. *Psychol Rev.* 121(2):225-247.

Unit ISN702: Applied Performance Nutrition

Unit code: T/650/9565

RQF Level: 7

Unit Aim

Learners will build on their knowledge of integrative health in a sports context from Unit 1 to explore the `quantitative paradigm' that currently dominates sports nutrition practice. Learners will investigate the topics of calories, body composition, macronutrients, micronutrients, nutrient timing, hydration and electrolytes, and overtraining.

Working within the paradigm of 'health feeds performance', learners will be expected to critically evaluate standard sports nutrition practices; most importantly, contextualising information and strategies for the individual athlete(s) they are working with. To support this learners will source and research information, discuss their findings and issues in class, and then apply their knowledge understanding to case study scenarios.

Learning Outcomes and Assessment Criteria

Learning Outcomes When awarded credit for this unit, a learner will:	**Assessment Criteria** Assessment of this learning outcome will require a learner to demonstrate that they can:	
1. Be able to develop strategies to manipulate an athlete's body composition.	1.1	Estimate an athlete's calorific requirements and intakes from food 'long hand'.
	1.2	Critically assess the limitations of assessing energy requirements.
	1.3	Evaluate body composition measurement techniques, including limitations and potential errors.
	1.4	Develop resources to use with a client to improve their body composition through physiological health and food quality.

2. Be able to develop strategies to support athletes with energy-balancing and nutrient-dense nutrition.	2.1	Assess macro- and micronutrient requirements for a given range of athletes.
	2.2	Discuss the key underpinning concepts of current sports nutrition guidelines for recommended macro- and micronutrient intake.
	2.3	Analyse individual differences in terms of metabolism and micronutrient needs for health and performance.
	2.4	Devise a nutrient-replete dietary strategy for an athlete based on their health and sporting history and individual metabolic preferences.
3. Be able to develop strategies to support athletes with hydration needs.	3.1	Analyse the differences between old and new theories of nutrient timing, including the post-exercise 'window of opportunity'.
	3.2	Discuss the key underpinning concepts of current sports nutrition guidelines for hydration and electrolyte status.
	3.3	Devise a hydration strategy for an athlete, based on their health and sporting scenario
4. Be able to develop assessment and support strategies for athletes in relation to overtraining and fatigue.	4.1	Discuss historic views of overtraining from a perspective of training loads, and physiological imbalances.
	4.2	Analyse how individual responses to heavy training and life differ, including requiring an integrative approach.

	4.3	Devise a dietary, life and training strategy for an athlete showing signs of overtraining syndrome and fatigue.

Suggested Resources

Textbooks

- McArdle WD, Katch FI and Katch VL (2015). *Exercise Physiology: Nutrition, Energy, and Human Performance*. 8th edition. Wolters Kluwer Health - Lippincott, Williams and Wilkins.
- Jeukendrup and Gleeson (2019). *Sport Nutrition*. 3rd edition. Human Kinetics.

Required Reading

- Adamo R (2021). A metabolism of errors. *Functional Sports Nutrition*. Mar/Apr 2021:12-14.
- Trexler ET et al (2014). Metabolic adaptation to weight loss: implications for the athlete. *J Int Soc Sports Nutr*. 11(1):7.
- Aragon AA et al (2017). International society of sports nutrition position stand: diets and body composition. *J Int Soc Sports Nutr*. 14:16.
- Pontzer H (2018). Energy Constraint as a Novel Mechanism Linking Exercise and Health. *Physiology (Bethesda)*. 33(6):384-393.
- Dolan E et al (2023). Energy constraint and compensation: Insights from endurance athletes. *Comp Biochem Physiol A Mol Integr Physiol.* 285:111500.
- ACSM et al (2009). American College of Sports Medicine Position Stand. Nutrition and athletic performance. *Med Sci Sports Exerc*. 41(3):709-731.
- Barr and McGee (2008). Optimizing training adaptations by manipulating glycogen. *Eur J Sport Sci*. 8(2): 97-106.
- Impey S et al (2016). Fuel for the work required: a practical approach to amalgamating train-low paradigms for endurance athletes. *Physiol Rep*. 4(10):e12803.
- Huskisson E et al (2007). The role of vitamins and minerals in energy metabolism and well-being. *J Int Med Res*. 35(3):277-289.
- Skipper J (2013). Micronutrients for the triathlete. *Total Sports Nutrition*. Jun/Jul 2013:14-15.
- Craig I (2011). Functional sports drinks. *Functional Sports Nutrition*. Mar/Apr 2011:6-8.
- Blow A (2013). Sports drinks and sweat. *Functional Sports Nutrition*. Jan/Feb 2013:26-28.
- Ranchordas MK et al (2017). Normative data on regional sweat-sodium concentrations of professional male team-sport athletes. *J Int Soc Sports Nutr*. 14:40.
- Schoenfeld B et al (2013). The effect of protein timing on muscle strength and hypertrophy: a meta-analysis. J Int Soc Sports Nutr. 10:53.
- Craig I (2018). Overtraining revisited. *Functional Sports Nutrition*. Mar/Apr 2018:8-10.

- Carfagno D and Hendrix J (2014). Overtraining syndrome in the athlete: Current clinical practice. *Current Sports Medicine Reports*. 13(1):45-51.

Unit ISN703: Hypertrophy for Sport and Exercise

Unit code: A/650/9567

RQF Level: 7

Unit Aim

Learners will build on their knowledge of integrative health and performance nutrition from Units 1 and 2 to explore, 'hypertrophy for sport and exercise'. This is one of several specialist topics that are intended to broaden the scope of the learner's practice. Learners will investigate the topics of training for hypertrophy, nutrition for hypertrophy, ergogenic aids for hypertrophy, and the relevance of whole-body health for muscular health.

Working within the paradigm of 'health feeds performance', learners will be expected, as the course develops, to bring their theoretical knowledge of body system health into a practical setting of working with a client towards their hypertrophy goals. To support this, learners will source and research information, discuss their findings and issues in class, and then apply their knowledge and understanding to case study scenarios.

Learning Outcomes and Assessment Criteria

Learning Outcomes When awarded credit for this unit, a learner will:	**Assessment Criteria** Assessment of this learning outcome will require a learner to demonstrate that they can:	
1. Be able to develop training and individualised nutrition strategies to support hypertrophy goals.	1.1	Assess the different types of hypertrophies and the metabolic stressors that create hypertrophy responses.
	1.2	Evaluate how the hypertrophy training process supports micronutrition and the physiological signaling pathways involved.
	1.3	Devise a dietary and training strategy to achieve an athlete's hypertrophy goals, based on their health and training needs.
2. Understand the importance of whole-body health for hypertrophy.	2.1	Analyse the concept of the gut-muscle axis as the basis of nourishing gastrointestinal and whole-body health to support hypertrophy goals.

goals and the use of nutritional ergogenic aids.	2.2	Discuss ergogenic aids and nutritional support for hypertrophy.
	2.3	Develop a training nutrition strategy to support an athlete's whole-body health, including ergogenic aids.

Suggested Resources

Texts

- Schoenfeld B (2020). *Science and Development of Muscle Hypertrophy*. 2nd Edition. Human Kinetics.
- Antonio J et al (2008). *Essentials of Sports Nutrition and Supplements*. ISSN. Humana Press Inc.

Required Reading

- Schoenfeld BJ et al (2021). Resistance training recommendations to maximize muscle hypertrophy in an athletic population: Position stand of the IUSCA. *International Journal of Strength and Conditioning*. 1(1).
- Ehren P (2021). Real ageing: cellular signals and beyond. *Functional Sports Nutrition*. Mar/Apr 2021:8-10.
- Przewłócka K et al (2020). Gut-muscle axis exists and may affect skeletal muscle adaptation to training. *Nutrients*. 12(5):1451.
- Gorissen SH et al (2015). The muscle protein synthetic response to food ingestion. *Meat Sci*. 109:96-100.

Unit ISN704: Gastrointestinal Health in Athletes

Unit code: D/650/9568

RQF Level: 7

Unit Aim

Learners will build on their knowledge of integrative health and performance nutrition from Units 1 and 2 to explore 'gastrointestinal health in athletes'. This is one of several specialist topics that are intended to broaden the scope of the learner's practice. Learners will investigate the topics of creating a healthy gut and microbiome, gut distress during exercise, gut-based immune responses, and clinical gastrointestinal testing and intervention.

Working within the paradigm of 'health feeds performance', learners will be expected, as the course develops, to bring their theoretical knowledge of body system health into a practical setting of supporting a client's gastrointestinal health within the context of the regular rigours of exercise training. To support this, learners will source and research information, discuss their findings and issues in class, and then apply their knowledge and understanding to case study scenarios.

Learning Outcomes and Assessment Criteria

Learning Outcomes When awarded credit for this unit, a learner will:	**Assessment Criteria** Assessment of this learning outcome will require a learner to demonstrate that they can:	
1. Understand gut health and function in a sporting setting for a selected athlete.	1.1	Assess the effects of exercise on gut health and function, including endurance.
	1.2	Discuss the gastrointestinal challenges of gut permeability and endotoxemia in a sporting context.
	1.3	Provide appropriate dietary and supplement advice for GI support during training and competition for a selected athlete.
2. Understand microbiome and clinical strategies used to support	2.1	Analyse the importance of gastrointestinal health for an athlete.

gastrointestinal health, and exercise training.	2.2	Discuss the whole-body health-mirroring effect of the human microbiome, including immune response.
	2.3	Select a portfolio of clinical tests to assess gastrointestinal and immune health in an athlete.
	2.4	Develop nutrition and lifestyle resources to support an athlete's gastrointestinal health, including clinical strategies where appropriate.

Suggested Resources

Texts

- Jones D (2006). *Textbook of Functional Medicine.* Institute of Functional Medicine.

Required Reading

- Caris-Harris K (2018). Exercise-induced gastrointestinal dysfunction in endurance athletes. *Functional Sports Nutrition*. July/Aug 2018:8-10.
- Mach N, Fuster-Botella D (2017). Endurance exercise and gut microbiota: A review. *J Sport Health Sci.* 6(2):179–197.
- Jeukendrup AE (2017). Training the gut for athletes. *Sports Med*. 47(Suppl 1):101-110.
- Mohr AE et al (2020). The athletic gut microbiota. *J Int Soc Sports Nutr.* 17(1):24.

Unit ISN705: Harnessing Mitochondrial Energy for the Athlete

Unit code: F/650/9569

RQF Level: 7

Unit Aim

Learners will build on their knowledge of integrative health in a sports context from Units 1 and 2, to explore, 'harnessing mitochondrial energy for the athlete'. This is one of several specialist topics that are intended to broaden the scope of the learner's practice. Learners investigate the topics of harnessing mitochondrial energy from a 3-dimensional nutrition perspective, emotional overwhelm and cellular stress, connecting mitochondrial health with complex health problems, and the effect of exercise training on mitochondrial biogenesis.

Working within the paradigm of 'health feeds performance', learners will be expected, as the course develops, to bring their theoretical knowledge of mitochondrial physiology into a practical setting of supporting a client's mitochondrial health and energy stability within the context of the regular rigours of exercise training. To support this, learners will source and research information, discuss their findings and issues in class, and then apply their knowledge and understanding to case study scenarios.

Learning Outcomes and Assessment Criteria

Learning Outcomes When awarded credit for this unit, a learner will:	**Assessment Criteria** Assessment of this learning outcome will require a learner to demonstrate that they can:	
1. Understand the dynamics of mitochondrial health, energy, and biogenesis.	1.1	Analyse the dynamics of mitochondrial health, energy, and biogenesis in the context of exercise physiology, and exercise training.
	1.2	Explain the fuel needs and nourishment of mitochondria in exercising muscles.
	1.3	Discuss the larger physiological and mental-emotional role that mitochondria play.
	2.1	Analyse the role of mitochondria within whole body health and energy.

2. Understand clinical strategies used to support mitochondrial health and energy.	2.2	Discuss how to clinically assess the connection between mitochondrial health and complex conditions.
	2.3	Develop nutrition and lifestyle resources to support an athlete's mitochondrial health and energy, including clinical strategies where appropriate.

Suggested Resources

Texts

- Worby P (2017). *The World Within: How our microbiome shapes who we are*. CreateSpace Independent Publishing Platform.

Required Reading

- Craig I (2015). The functionality of energy. *Functional Sports Nutrition*. Nov/Dec 2015:8-10.
- Picard M and McEwen BS (2018). Psychological stress and mitochondria: A conceptual framework. *Psychosom Med*. 0(2):126–140.
- Naviaux RK (2014). Metabolic features of the cell danger response. *Mitochondrion*. 16:7–17.
- Zanini G et al (2021). Mitochondrial DNA and exercise: Implications for health and injuries in sports. *Cells*. 10:2575.
- Drake J et al (2018). Molecular mechanisms for mitochondrial adaptation to exercise training in skeletal muscle. *FASEB.* 30(1):13-22.
- Pizzorno J (2014). Mitochondria-Fundamental to Life and Health. *Integr Med (Encinitas)*. 13(2):8-15.
- Fritzen AM et al (2019). Adaptations in Mitochondrial Enzymatic Activity Occurs Independent of Genomic Dosage in Response to Aerobic Exercise Training and Deconditioning in Human Skeletal Muscle. *Cells*. 2019 Mar 12;8(3):237.
- Van Heerden Z (2018). Mitochondrial adaptations to endurance training. *Functional Sports Nutrition*. May/June 2018:32-34.

Unit ISN706: Ergogenic Aids for the Athlete

Unit code: K/650/9570

RQF Level: 7

Unit Aim

Learners will build on their knowledge of integrative health in a sports context from Units 1 and 2 to explore 'performance-enhancing ergogenic aids'. This is one of several specialist topics that are intended to broaden the scope of the learner's practice. Learners will investigate the topics of recognising an athlete's health and ecosystem as performance-supporting, a review of classical ergogenic aids, patterns of drug use in sport, and in-direct food-based ergogenic aids.

Working within the paradigm of 'health feeds performance', learners will be expected, as the course develops, to bring their theoretical knowledge of ergogenic aids into a practical setting of an athlete's life, ecosystem, and foundational life challenges.

To support this, learners will source and research information, discuss their findings and issues in class, and then apply their knowledge and understanding to case study scenarios.

Learning Outcomes and Assessment Criteria

Learning Outcomes When awarded credit for this unit, a learner will:	**Assessment Criteria** Assessment of this learning outcome will require a learner to demonstrate that they can:	
1. Understand positive ergogenic influences that support health and performance.	1.1	Discuss 'ergogenic' within the ecosystem of an athlete's life.
	1.2	Assess how foods and nutrients without 'proven' ergogenic influence support a health-feeds-performance approach.
	1.3	Provide appropriate dietary and lifestyle advice for health and performance support for a given client

2. Understand the classical ergogenic aids in sport, and the common doping strategies.	2.1	Discuss classical ergogenic aids with a suggested performance-enhancing role.
	2.2	Analyse the physiological patterns associated with drug taking in sport and when to make appropriate referrals.
	2.3	Develop resources to support an athlete's performance using well-established performance-enhancing sports strategies.

Suggested Resources

Texts

- Antonio J et al (2008). *Essentials of Sports Nutrition and Supplements*. ISSN. Humana Press Inc.

Required Reading

- Ehren P (2019). Ergogenic aids in professional and recreational sport - a different perspective. *Functional Sports Nutrition*. Jan-Feb 2019:8-10.
- Ehren P (2019). The health demands of drug enhanced athletes. *Functional Sports Nutrition*. Jul-Aug 2019:24-26.
- Burns L et al (2022). A survey of elite and pre-elite athletes' perceptions of key support, lifestyle and performance factors. *BMC Sports Sci Med Rehabil*. 14(1):2.
- Doherty R et al (2019). Sleep and Nutrition Interactions: Implications for Athletes. *Nutrients*. 11(4):822.
- Lovell M (2012). Ergogenic aids that work. *Functional Sports Nutrition*. Jul-Aug 2012:26-28.
- Fernández-Landa J et al (2020). Long-Term Effect of Combination of Creatine Monohydrate Plus β-Hydroxy β-Methylbutyrate (HMB) on Exercise-Induced Muscle Damage and Anabolic/Catabolic Hormones in Elite Male Endurance Athletes. *Biomolecules*. 10(1):140. d

Unit ISN707: Natural Sports Cookery

Unit code: L/650/9571

RQF Level: 7

Unit Aim

Learners will build on their knowledge of integrative health in a sports context from Units 1 and 2 to explore, 'natural sports cookery'. This is one of several specialist topics that are intended to broaden the scope of the learner's practice. Learners will investigate the topics of language of natural cookery, energetic nutrition in the context of sport, nourishing the athlete through whole food forms and specialised preparation methods like fermentation and stocking, and creating a meal composition for the athlete.

Working within the paradigm of 'health feeds performance', learners will be expected, as the course develops, to bring their theoretical cookery knowledge into a practical setting of an athlete's life, nourishing their physiological systems from the inside out.

To support this, learners will source and research information, discuss their findings and issues in class, and then apply their knowledge and understanding to case study scenarios.

Learning Outcomes and Assessment Criteria

Learning Outcomes When awarded credit for this unit, a learner will:	**Assessment Criteria** Assessment of this learning outcome will require a learner to demonstrate that they can:	
1. Understand how natural sports cookery influences an athlete's energy systems.	1.1	Discuss 'energetic' within the context of natural sports cookery.
	1.2	Assess examples of foods that have potential energetic influences on an athlete's body.
	1.3	Provide appropriate dietary advice for a given athlete to support their health, including coping with the pressures of training.

2. Be able to prepare a meal composition to optimally nourish an athlete's body systems.	2.1	Discuss foods with the nutrient compositions to support the physiological challenges of the training regime of an individual athlete.
	2.2	Analyse why particular preparation and cooking methods support the particular body system(s) challenged by the athlete's training regime.
	2.3	Prepare a meal composition for an individual athlete.

Suggested Resources

Texts

- Saltzman J (2006). *Intuitive Cooking: from the School of Natural Cookery*. Book Publishing Company, Summertown, Tennessee.
- Gagné S (2008). *Food Energetics: The Spiritual, Emotional, and Nutritional Power of What We Eat*. Inner Traditions Bear and Company.
- Katz SE (2015). *The Art of Fermentation*. Chelsea Green Publishing Co.
- Craig I and Jesson R (2016). *Wholesome Nutrition for You*. Struik Lifestyle.

Required Reading

- Jesson R (2015). Soil to plate. *Functional Sports Nutrition*. Jan/Feb 2015:8-10.
- Craig I (2016). Fermenting food for health and performance. *Functional Sports Nutrition*. Mar/Apr 2016:34-36.
- Jesson R (2016). Focus on Kefir. *Functional Sports Nutrition*. Nov/Dec 2016:28.
- Jesson R (2017). Focus on Bone broth – what's old is new again for athletes. *Functional Sports Nutrition*. Jul/Aug 2017:30.

Unit ISN708: 'Healthspan' - Functional Health of an Ageing Athlete

Unit code: M/650/9572

RQF Level: 7

Unit Aim

Learners will build on their knowledge of integrative health in a sports context from Units 1 and 2 to explore 'healthspan'. This is one of several specialist topics that are intended to broaden the scope of the learner's practice. Learners will investigate the topics of health versus performance, the dose-dependent relationship between exercise and healthy ageing, life transitions for an athlete, clinical indicators of age and ageing, plus nutritional strategies to support healthful ageing.

Working within the paradigm of 'health feeds performance', learners will be expected, as the course develops, to bring their theoretical knowledge of ageing into a practical setting of an athlete's life, including life phases, and training demands based on their exercise goals.

To support this, learners will source and research information, discuss their findings and issues in class, and then apply their knowledge and understanding to case study scenarios.

Learning Outcomes and Assessment Criteria

Learning Outcomes When awarded credit for this unit, a learner will:	**Assessment Criteria** Assessment of this learning outcome will require a learner to demonstrate that they can:	
1. Understand the relationship between training load and the physiological process of ageing.	1.1	Discuss the detrimental health effects of too much or too little exercise over a prolonged timespan.
	1.2	Analyse how the process of oxidative stress, inter-relates with the physiological ageing process.
	1.3	Analyse and interpret scientific advice given on healthy ageing and the point of optimum balance.

2. Be able to support ageing athletic clients to monitor their exercise, nutrition and lifestyle strategies.	2.1	Assess the usefulness of monitoring tests and devices associated with healthy ageing for individual clients.
	2.2	Provide personalised exercise, nutrition and lifestyle advice to a client to support their long-term health.

Suggested Resources

Texts

- Antonio J et al (2008). *Essentials of Sports Nutrition and Supplements*. ISSN. Humana Press Inc.
- Attia P (2023). *Outlive: The Science and Art of Longevity.* Vermilion.

Required Reading

- Ehren P (2017). Ageing and the master athlete. *Functional Sports Nutrition*. Mar/Apr 2017:8-10.
- López-Otín C et al (2013). The hallmarks of aging. *Cell*. 153(6):1194-217.
- Hakkinen K et al (2000). Neuromuscular adaptation during prolonged strength training, detraining and re strength training in middle aged and elderly people. *Eur. J. Appl*. Physiol. 83(1):51-62.
- Yoon MS (2017). mTOR as a Key Regulator in Maintaining Skeletal Muscle Mass. *Front Physiol*. 8:788.
- Craig I (2013). Exercise – how much and for how long? *Functional Sports Nutrition*. May/Jun 2013:8-10.
- Teramoto M & Bungum TJ (2010). Mortality and longevity of elite athletes. *Journal of Science and Medicine in Sport* 13:410–416.
- Tanaka H and Seals DR (2008). Endurance exercise performance in Masters athletes: age-associated changes and underlying physiological mechanisms. *J Physiol*. 586(1):55–63.
- Aengevaeren VL et al (2017). Relationship between lifelong exercise volume and coronary atherosclerosis in athletes. Circulation. 136(2):138-148.

Unit ISN709: Health and Physical Success of Female Athletes

Unit code: R/650/9573

RQF Level: 7

Unit Aim

Learners will build on their knowledge of integrative health in a sports context from Units 1 and 2 to explore, 'health and physical success of female athletes'. This is one of several specialist topics that are intended to broaden the scope of the learner's practice. Learners will investigate the topics of the physiology of female hormones and influence of exercise training loads, genetics of the oestrogen lifecycle, nutrition support for a sportswoman before, during and post-pregnancy, and transition through menopause.

Working within the paradigm of 'health feeds performance', learners will be expected, as the course develops, to bring their theoretical knowledge of female hormonal rhythms into the practical setting of a female athlete's life, including personalisation of nutrition support for a healthy menstrual cycle, and case specific scenarios for female-specific life phases. To support this, learners will source and research information, discuss their findings and issues in class, and then apply their knowledge and understanding to case study scenarios.

Learning Outcomes and Assessment Criteria

Learning Outcomes When awarded credit for this unit, a learner will:	**Assessment Criteria** Assessment of this learning outcome will require a learner to demonstrate that they can:	
1. Understand the physiology of the female hormonal system in a sports context.	1.1	Discuss female hormone rhythms, including variations that occur due to genetic influences
	1.2	Discuss how to support a female athlete's menstrual system via personalised nutrition advice.
	1.3	Analyse the consequences of lifestyle stresses and inappropriate training loads on female hormone rhythms.

2. Be able to support female athletic clients with nutrition, exercise and lifestyle advice at different life event stages.	2.1	Evaluate the nutritional support needs of a female athlete before, during and after pregnancy and lactation.
	2.2	Evaluate the nutritional support needs of a female athlete moving towards and transitioning through menopause.
	2.3	Produce personalised nutrition and lifestyle advice for a female client with a particular health challenge.

Suggested Resources

Texts

- Beals KA (2013). *Nutrition and the Female Athlete: From Research to Practice*. 1st Edition. CRC Press.

Required Reading

- Holtzman B, Ackerman KE (2021). Recommendations and Nutritional Considerations for Female Athletes: Health and Performance. *Sports Med*. 51(Suppl 1):43-57.
- Elliott-Sale KJ et al (2021). Methodological Considerations for Studies in Sport and Exercise Science with Women as Participants: A Working Guide for Standards of Practice for Research on Women. *Sports Med*. 51(5):843-861.
- Elliott-Sale KJ et al (2020). The BASES Expert Statement on Conducting and Implementing Female Athlete-Based Research. *The Sport and Exercise Scientist*. 65:6-7.
- Pedlar CR et al (2018). Iron balance and iron supplementation for the female athlete: A practical approach. *Eur J Sport Sci*. 18(2):295-305.
- Cadegiani FA, Kater CE (2017). Hypothalamic-Pituitary-Adrenal (HPA) Axis Functioning in Overtraining Syndrome: Findings from Endocrine and Metabolic Responses on Overtraining Syndrome (EROS)-EROS-HPA Axis. *Sports Med Open.* 3(1):45.
- Yu WD et al (2001). Combined effects of estrogen and progesterone on the anterior cruciate ligament. *Clin Orthop Relat Res*. 383:268-281.
- Jouanne M et al (2021). Nutrient Requirements during Pregnancy and Lactation. *Nutrients*. 13(2): 692.

Unit ISN710: Musculoskeletal Nutrition Support in Sport

Unit code: T/650/9574

RQF Level: 7

Unit Aim

Learners will build on their knowledge of integrative health in a sports context from Units 1 and 2 to explore, 'musculoskeletal nutrition support in sport'. This is one of several specialist topics that are intended to broaden the scope of the learner's practice. Learners will investigate the topics of musculoskeletal integrative physiology, nutritional support for the musculoskeletal system, working with different body types, and recovery from musculoskeletal load, injury and trauma, including concussion.

Working within the paradigm of 'health feeds performance', learners will be expected, as the course develops to bring their theoretical knowledge of musculoskeletal physiology into the practical setting of an athlete's life, including personalisation of nutrition support for musculoskeletal integrity and recovery. To support this, learners will source and research information, discuss their findings and issues in class, and then apply their knowledge and understanding to case study scenarios.

Learning Outcomes and Assessment Criteria

Learning Outcomes When awarded credit for this unit, a learner will:	**Assessment Criteria** Assessment of this learning outcome will require a learner to demonstrate that they can:	
1. Understand the nutritional elements needed to support and maintain the human musculoskeletal system	1.1	Identify and evaluate the main anatomical and physiological elements of the musculoskeletal system.
	1.2	Assess how to support an athlete's musculoskeletal system via personalised nutrition advice

	1.3	Analyse the interconnectivity of the other body systems with regard to optimal musculoskeletal health
2. Be able to provide specialised support to athletes with musculoskeletal challenges.	2.1	Assess different body systems with regard to susceptibility to musculoskeletal injury and trauma.
	2.2	Explain the stages of recovery from musculoskeletal injury and other trauma, including concussion.
	2.3	Produce personalised nutrition and lifestyle advice for an athlete with particular musculoskeletal challenges.

Suggested Resources

Texts

- Kohlstadt et al (2006). *Scientific Evidence for Musculoskeletal, Bariatric, and Sports Nutrition*. Taylor and Francis Group.
- Myers T (2013). *Anatomy Trains: Myofascial Meridians for Manual and Movement Therapists*. 3rd edition. Churchill Livingstone.

Required Reading

- Peake et al (2017). Muscle damage and inflammation during recovery from exercise. *J Appl Physiol (1985)*. 122(3):559-570.
- Perry (2004). Nutritional support for the three phases of care. *ANSR–Applied Nutritional Science Reports*. Advanced Nutrition Publications, Inc.
- Soligard T et al (2016). How much is too much? (Part 1) International Olympic Committee consensus statement on load in sport and risk of injury. *Br J Sports Med*. 50:1030-1041.
- Vasquez (2005). *Therapeutic Nutrition and Botanical Medicines for the Promotion of Wellness and Alleviation of Pain and Inflammation: A Detailed Review for Integrative Clinicians.* Biotics Research Corporation.
- Przewłócka K et al (2020). Gut-muscle axis exists and may affect skeletal muscle adaptation to training. *Nutrients*. 12(5):1451.

- Stewart E (2018). The impact of concussion. *Functional Sports Nutrition*. Sep/Oct 2018:26-28.

Unit ISN711: Relative Energy Deficiency in Sport (REDs)

Unit code: Y/650/9575

RQF Level: 7

Unit Aim

Learners will build on their knowledge of integrative health in a sports context from Units 1 and 2 to explore, 'relative energy deficiency in sport'. This is one of several specialist topics that are intended to broaden the scope of the learner's practice. Learners will investigate the topics of energetic needs for training sessions, patterns of disordered eating, physiological imbalances associated with energy deficiency, including endocrine dysfunction, and the nutritional and lifestyle support of REDs individuals.

Working within the paradigm of 'health feeds performance', learners will be expected, as the course develops, to bring their theoretical knowledge of REDs into the practical setting of an athlete's life, including personalisation of nutrition support for endocrine integrity and associated health parameters.

To support this, learners will source and research information, discuss their findings and issues in class, and then apply their knowledge and understanding to case study scenarios.

Learning Outcomes and Assessment Criteria

Learning Outcomes When awarded credit for this unit, a learner will:	**Assessment Criteria** Assessment of this learning outcome will require a learner to demonstrate that they can:	
1. Understand the physiological consequences of prolonged periods of relative energy deficiency	1.1	Assess the energetic needs of an athlete undergoing regular sports training.
	1.2	Discuss how to identify psychological imbalances associated with disordered eating behaviour and manage them professionally.
	1.3	Analyse the interconnectivity of the body systems as set out in the concept of 'female triad' and newer REDs classification.

2. Be able to provide specialised support and nutrition advice to athletes with disordered eating behaviour.	2.1	, Discuss how the hypothalamus-pituitary-adrenal (HPA) axis is imbalanced by physical and psychological stresses in an athlete's life.
	2.2	Develop a micro- and phytonutrient rich diet for an athlete to meet meets their needs, including nourishment of body systems.
	2.3	Develop personalised nutrition and lifestyle advice for an athletic individual with REDs.

Suggested Resources

Texts

- McGregor R (2017). *Orthorexia: When Healthy Eating Goes Bad*. Watkins Media.
- Keay N (2022). *Hormones, Health and Human Potential: A Guide to Understanding Your Hormones to Optimise Your Health & Performance*. Sequoia Books.

Required Reading

- Montjoy M et al (2014). The IOC consensus statement: beyond the Female Athlete Triad—Relative Energy Deficiency in Sport (RED-S). *Br J Sports Med*. 48:491–497.
- Mountjoy M et al (2018). IOC consensus statement on relative energy deficiency in sport (RED-S): 2018 update. *Br J Sports Med*. 52(11):687-697.
- Stellingwerff T et al (2021). Overtraining Syndrome (OTS) and Relative Energy Deficiency in Sport (RED-S): Shared Pathways, Symptoms and Complexities. *Sports Med*. 51(11):2251-2280.
- Jurov I et al (2021). Relationship between energy availability, energy conservation and cognitive restraint with performance measures in male endurance athletes. *J Int Soc Sports Nutr*. 18(1):24.
- Mastorakos G and Pavlatou M (2005). Exercise as a stress model and the interplay between the hypothalamus-pituitary-adrenal and the hypothalamus-pituitary-thyroid axes. *Horm Metab Res*. 37(9):577-584.

Unit ISN712: A Mind-Body Perspective in Sport

Unit code: A/650/9576

RQF Level: 7

Unit Aim

Learners will build on their knowledge of integrative health in a sports context from Units 1 and 2 to explore, 'a mind-body perspective in sport'. This is one of several specialist topics that are intended to broaden the scope of the learner's practice. Learners will investigate the topics of beliefs and values in a sports setting, psychological barriers to athletic success, adverse childhood experiences (ACEs) in the context of high-achieving exercisers and athletes, well-formed goal setting, managing ego in sport and training, pursuing athletic goals with heart and self-compassion.

Working within the paradigm of 'health feeds performance', learners will be expected, as the module develops, to bring their theoretical knowledge of mind-body health into the practical setting of an athlete's life, including personalisation of psychological support for mind-body health, avoiding overtraining syndrome, and succeeding with sporting goals.

To support this, learners will source and research information, discuss their findings and issues in class, and then apply their knowledge and understanding to case study scenarios.

Learning Outcomes and Assessment Criteria

Learning Outcomes When awarded credit for this unit, a learner will:	**Assessment Criteria** Assessment of this learning outcome will require a learner to demonstrate that they can:	
1. Understand the importance of psychological support in enhancing physical performance.	1.1	Discuss psychological patterns that can inhibit an athlete's training adaptations and performance outcomes.
	1.2	Assess the impact of trauma and adverse childhood experiences (ACEs) on potential overtraining in the context of a sport's over-achiever'.

2. Be able to utilise specialised strategies that support mind-body resonance and physical excellence.	2.1	Create a well-formed goal with a client based on 'intent'.
	2.2	Support a client to manage their own ego, including awareness of self-importance and self-pity.
	2.3	Develop a flexible, motivating training and lifestyle action plan for a client.

Suggested Resources

Texts

- Worby P (2017). *The Scar that won't Heal: Trauma and Unresolved Emotion in Chronic Disease*. Patricia Worby Publishing
- Weinberg RS and Gould D (2018). *Foundations of Sport and Exercise Psychology*. 7th Edition. Human Kinetics.

Required Reading

- Hardy L et al (2017). Great British medalists: Psychosocial biographies of super-elite and elite athletes from Olympic sports. *Prog Brain Res*. 232:1-119.
- Hughes K et al (2017). The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. *Lancet Public Health*. 2(8):e356-e366.
- Picard M and McEwen BS (2018). Psychological stress and mitochondria: A conceptual framework. *Psychosom Med*. 0(2):126–140.
- Craig I (2018). Overtraining revisited. *Functional Sports Nutrition*. Mar/Apr 2018:8-10.
- Carfagno D and Hendrix J (2014). Overtraining syndrome in the athlete: Current clinical practice. *Current Sports Medicine Reports*. 13(1):45-51.
- Teques P et al (2017). The resonant system: Linking brain-body-environment in sport performance. *Prog Brain Res*. 234:33-52.
- Nunn AV et al (2016). The quantum mitochondrion and optimal health. *Biochem Soc Trans*. 44(4):1101-1110.
- Tanguy G et al (2018). Anxiety and psycho-physiological stress response to competitive sport exercise. *Front Psychol*. 9:1469.

Unit ISN713: Mentoring and Case Studies Programme

Unit code: Y/650/9566

RQF Level: 7

Unit Aim

The underpinning aim of this Level 7 qualification is to enhance practitioners' levels of applied practice. Therefore, this unit gives learners the opportunity to bring together their learning from all the other units and apply it in a nourishing practitioner-client type of setting. Learners will explore the concepts of conceptualised practice, building a perceptive awareness in the process. They will receive mentorship from different integrative-thinking professionals, including nutrition, functional and integrative medicine, exercise, and psychology practitioners.

Working within the paradigm of 'health feeds performance', learners will be expected to study individually, and also in a group setting, plus conduct cases, discuss outcomes, and present to their peers. Interaction with their mentors will allow progression of experiential practice throughout this extended unit.

Learning Outcomes and Assessment Criteria

Learning Outcomes When awarded credit for this unit, a learner will:	**Assessment Criteria** Assessment of this learning outcome will require a learner to demonstrate that they can:	
1. Understand integrative and personalised ways of working within the context of sports nutrition.	1.1	Analyse how to work in an integrative body-systems way and the importance of this approach, including the relevancy of individuality.
	1.2	Analyse the connection between imbalanced body system health and reduced athletic performance.
	1.3	Evaluate ways to incorporate the individual ecosystem of an athlete's life into their overall clinical thinking.

2. Understand standard pathology and the functional and genetic tests used in integrative practice.	2.1	Analyse which tests are useful in establishing a sporting clients' physiological imbalances.
	2.2	Interpret the findings from a range of given tests used in a sporting context.
	2.3	Provide appropriate dietary and lifestyle advice based on test results for a given client.
3. Understand the decision-making process in relation to an individual case.	3.1	Assess information from relevant models of health and performance.
	3.2	Select appropriate information to apply to a particular case.
	3.3	Explore credible sources of information and the duality of application, including the limitations of research studies.
	3.4	Apply relevant scientific research to a particular person's life and physiology with regard to nutrition and lifestyle advice given.
4. Be able to develop a business plan within the context of own work role.	4.1	Develop a business plan to include the development of non-practitioner skills needed to run a successful practitioner business.
	4.2	Evaluate their current way of working and identify development needs in relation to knowledge and practice.
	4.3	Apply their business plan in the context of their own work adapting the plan as necessary.
5. Be able to interact with a complex athletic client to understand and support their needs.	5.1	Within the remit of own job role, support a complex client when taking a detailed case history.

	5.2	Determine aspects of the life load of more complex clients based on an understanding of their psychological needs.
	5.3	Set up a referral network and work integrally with another practitioner as appropriate.

Suggested Resources

Textbooks

- Jones D (2006). *Textbook of Functional Medicine.* Institute of Functional Medicine.
- Weatherby D (2004). *Signs and Symptoms Analysis from a Functional Perspective*. Bear Mountain Publishing.
- Lord RS and Bralley JA (2008). *Laboratory Evaluations for Integrative and Functional Medicine*. 2nd Edition. Metametrix Institute.
- Nicole L and Woodriff Beirne A (2010). *Biochemical Imbalances in Disease*. Singing Dragon.
- McArdle WD, Katch FI and Katch VL (2015). *Exercise Physiology: Nutrition, Energy, and Human Performance*. 8th edition. Wolters Kluwer Health - Lippincott, Williams and Wilkins.
- Jeukendrup and Gleeson (2019). *Sport Nutrition*. 3rd edition. Human Kinetics.

Required Reading

- Williams P (2014). It's okay not to know all the science. *Functional Sports Nutrition*. Jul-Aug 2014:20-22.
- Heath B (2014). The art of medicine. *Lancet*. 384:838–839 and 848–849.
- Ramsay DS, Woods SC (2014). Clarifying the roles of homeostasis and allostasis in physiological regulation. *Psychol Rev.* 121(2):225-247.
- Johnston BC et al (2019). The Philosophy of Evidence-Based Principles and Practice in Nutrition. *Mayo Clin Proc Innov Qual Outcomes*. 3(2):189-199.
- Doughty N (2022). Time for change: Should person centred care replace evidence based practice? *Functional Sports Nutrition*. Jul/Aug 2022:8-10.
- Close GL et al (2019). From Paper to Podium: Quantifying the Translational Potential of Performance Nutrition Research. *Sports Med*. 49(Suppl 1):25-37.
- Ritson AJ et al (2023). Bridging the gap: Evidence-based practice guidelines for sports nutritionists. *Front Nutr*. 10:1118547.

Unit HC 550: Capstone Research and Project

Unit code: R/616/8934

RQF Level: 7

Unit Aim

The purpose of this unit is to engage learners in a capstone research project that will demonstrate ability in integrative sport and exercise nutrition as a master practitioner. The capstone project will culminate in a report or significant document of professional study. The capstone research project demonstrates the ability to: identify and define a problem; identify and utilise source materials; conduct a literature review; collate and analyse data; evaluate results and develop defensible conclusions.

Through introduction to and application of key research concepts in the first eight-week segment, learners will build competency in the design of a qualitative research project. Implementation of the research project and final report will be conducted and submitted in the subsequent eight-week segment.

Learning Outcomes and Assessment Criteria

Learning Outcomes. To achieve this unit a learner must be able to:	**Assessment Criteria: Assessment of these outcomes demonstrates a learner can:**	
1. Create a framework within which to carry out research on a chosen project topic.	1.1	Conduct an extensive literature search for the chosen project.
	1.2	Apply a theoretical framework to guide research.
2. Use appropriate data collection and analysis methods for qualitative research.	2.1	Analyse selected qualitative data to identify and discuss relevant themes.
	2.2	Use relevant data and literature to support research findings.
	2.3	Mitigate ethical concerns in carrying out the research project.
3. Produce a formal academic research report following the tenets of academic writing and referencing.	3.1	Synthesise multiple sources to create a scholarly literature review.
	3.2	Apply an academically recognised style for formatting and citing sources.

	3.3	Write proficiently in the context of an academic research project

Suggested Resources

Required Reading/References

- Craig, I and Roberts, J (2026). *Integrative Sport and Exercise Nutrition*. Chapter 1 – Integrative Sports Nutrition: An Introduction. Pp 3-24. Routledge.
- Qualitative Inquiry and Research Design (Creswell & Poth) - podcast. Available from: https://www.youtube.com/watch?v=Zdr_P_V5fCY&t=181s
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