

Therapeutic Radiography Degree Apprenticeship Overview

Important contacts:

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What is a Degree Apprenticeship?

- Government driven
- Combining Part-time learning (minimum of 20%) with Part-time working
- Supported by workplace by using apprenticeship levy
- Learning carries over into work

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Teaching with SHU

- No long breaks within the programme (52 week year)
- 36-month course overall, (35 months excluding the integrated end point assessment)
- Profession Specific - teaching and learning that happens with Therapeutic Radiography apprentices only
- Shared - teaching and learning materials that are shared with other apprentices but with profession specific sessions
- There are three “competence for practice” assessments, which occur in each year of the course. These are pass/ fail modules. The apprentices undertake over 1000 hours of clinical practice, which is the minimum required to meet Professional and Statutory Body Requirements (PRSB), including the Society & College of Radiographers (SOR) and the Health Care and Professions Council (HCPC).

Work-based mentor and Apprenticeship Coach

Each apprentice has a mentor (approx. 30 hours) in the workplace, their role includes:

- Support the learner
- Implement learning in the workplace -within contract
- Takes part in progress reviews (every 100 days)

Each apprentice has an apprenticeship coach at the University, their role includes:

- Facilitates progress reviews
- Monitors progress
- Works closely with academic advisor and course team

Workplace guidance

- Apprentices must receive a minimum of 6 hours off the job learning (OTJL) a week, the employer may decide to give the apprentice a study day a week to meet this minimum requirement, but it is not mandatory
- Apprentices do not receive a SHU student uniform; their uniform is provided by their employer
- Apprentices require occupational health clearance and completion of mandatory training provided by their employer
- They should aim to complete normal (contracted) working hours whilst in the workplace
- Absence reporting follows the Trust procedures

Clinical assessment

Year 1 (Level 4)	DA TRAD Competence for Practice 1 (pass/fail) Completion of: Task 1: professionalism, communication & team working profile Task 2: active participation in 2 techniques.
Year 2 (Level 5)	DA TRAD Competence for Practice 2 (pass/fail) Completion of Task 1: professionalism, communication & team working profile Task 2: IGRT in 2 techniques, and 1 up to supervised practice competence.
Year 3 (Level 6)	DA TRAD Competence for Practice 3 (pass/fail) Completion of Task 1: professionalism, communication & team working profile Task 2: completion of all clinical competency profiles up to supervised practice competence.

Level 4	
TRAD Anatomical image interpretation & radiation science Trimester 1 (March)	Anatomy and radiographic image interpretation of key body systems: - Skeletal and Locomotor, Thorax, Abdomen, Pelvis, Intracranial, Head & neck, Lymphatics Fundamentals of Radiotherapy Physics including: - Radiobiology introduction, Fundamental maths and physics, Radioactivity Principles, Interactions with matter and beam characteristics, X-ray production, Linear Accelerator, Radiation Protection
TRAD Cancer management & care Trimester 2 (June)	- Aetiology & epidemiology, risk factors of cancer, both global & local. - Diagnosis of cancer; signs, symptoms and investigations. - The characteristics of malignant disease (development & spread of cancer), cancer biology, pathology, histology, staging & grading of tumours - The management and effect of cancer, treatment modalities, the patient pathway & factors affecting management decisions - The biological effects of ionising radiations (radiobiology) cytotoxic agents (chemotherapy) and pharmacology - Communication and patient experience: the service user experience, patient management/care, information needs, communication skills, and multidisciplinary team working in radiotherapy departments. - Introduction to side effects (acute & chronic toxicities associated with cancer treatment) and their management, including patient assessment and care planning - Inclusivity in patient care: The biopsychosocial model of health, population health and social determinants of health and the impact on cancer diagnosis and management. Equality, Diversity and inclusion.

	• Writing for your field of practice, appraisal of evidence-based practice, academic writing skills.
TRAD Principles of oncology, radiotherapy & technology 1 Trimester 3 (September)	Oncology treatment sites: • Palliative and oncological emergencies, Bone metastasis, Urology including prostate, Skin, Myeloma, Lymphoma Technical: • Radiotherapy treatment techniques to include Intensity Modulated Radiotherapy (IMRT), Image guided Radiotherapy (IGRT), Intensity Modulated Arc Therapy (IMAT), Proton Therapy and Stereotactic techniques in the management of cancer. • Superficial treatment modalities (KV/Orthovoltage) • Treatment verification, image interpretation and decision making for the oncology sites studied. • Dose and fractionation for the oncological sites studied. Legal and ethical considerations: • Radiation protection legislation and clinical governance frameworks in which radiotherapy is delivered. • Regulatory and professional legislation & guidance requirements required of a Therapeutic Radiographer Patient Management (for the oncology sites in the module): • Service user involvement • Personalised care • Personal well-being (student & service user)
DA Personal and professional development 1 (Long module – 3 semesters)	• Overall focus is around resilience and reflective practice. • Includes fundamental academic skills i.e. literature searching

	• How we learn and reflective learning/practice and lifelong learning • Emotional intelligence, self-regulation, resilience, understanding self and impact on others • Principles of equality, diversity and inclusion and safeguarding • Maintaining own health and wellbeing • Basics of communication and person-centred practice • Professionalism, professional standards, legislation and policy • The relationship of their apprenticeship programme with the British Values of democracy, the rule of law, individual liberty, and mutual respect and tolerance of those with different faiths and beliefs
Level 5	
TRAD Principles of oncology radiotherapy & technology 2 (Trimester 1 – March)	Oncology treatment sites: • Breast, Lower digestive Technical: • Introduction to Planning (inclusive of AI where appropriate), Treatment Planning (including image registration and fusion as appropriate), Dose Calculations, Quality Assurance and linac verification, Principles of dosimetric verification. • Ultrasound/PET/MRI, DIBH, SGRT, • Treatment verification, image interpretation and decision making for the oncology sites studied, Dose and fractionation for the oncological sites studied. Legal and ethical considerations: • Legislation and best practice for undertaking informed consent, Dementia care and capacity Patient Management (for the oncology sites in the module): • Psychological impact of cancer, Personalised care, Personal well-being (student & service user)

TRAD Principles of oncology radiotherapy & technology 3 (Trimester 2 – June)	Oncology treatment sites: • Male reproductive, Female reproductive, Lung, Mid digestive (including pancreas and liver) Technical: • The advances in radiotherapy treatment delivery: SGRT, SABR, Breath hold/organ motion, Tomotherapy, Application of IGRT and adaptive radiotherapy (to include its application in the treatment of bladder cancer), Clinical use of the MR-Linac. • Brachytherapy, Radioactivity: sealed and unsealed sources/Nuclear medicine, • Treatment verification, image interpretation and decision making for the oncology sites studied, • Dose and fractionation for the oncological sites studied. Legal and ethical considerations: • Introduction to human factors: duty of candour Patient Management (for the oncology sites in the module): • Psychological and psychosexual impact of cancer, Personalised care, Personal Well Being (Student & Patient)
DA Research in Practice (Trimester 3 – September)	• Applied research approaches and methods • Critical appraisal skills • Research in practice (service evaluation/audit) • Managing data and the application of literacy, numeracy and digital skills to deliver coherent project outcomes • Engaging service users in research • Ethics, legislation and research governance • Problem identification in workplace • Conducting scoping and literature reviews and information searching skills

	• Project management • The application of literacy, numeracy and digital skills to support coherent project outcomes • Evaluation of how the project activities can create a platform for career development • Representation and Equality, Diversity and Inclusion (EDI) within literature and research • Themes within population health, environmental, social and governance issues, climate impact and sustainability
DA Personal and professional development 2 (Long module – 3 semesters)	• Sense-making through reflective practice models and techniques. • Identifying and defining personal performance indicators and standards: ◦ Personal / role related ◦ Organisational • Measuring and monitoring own personal performance and celebrating impact • Emotional intelligence: self-regulation, coping with emotions and impact on others' performance • Developing knowledge, skills and behaviours in collaborative communication and managing difficult conversations • Evaluating shared policy and evidence-based practice that inform collaboration, team working and integrated systems of practice • Developing person centred care approaches in relation to complex decision making • Selecting, presenting and articulating evidence of competency in preparation for End Point Assessment • Career development and future orientation
Level 6	
DA Applied research in practice (Semester 1 – March)	• Applied research approaches and assessment of scope and limitation • Advanced information searches • Enhanced critical appraisal skills

	• Service improvement and enhancement and models • Service audit and evaluation • Change models and management • Project management and implementation • Expanding research methods and skills • Applied research in practice • Dissemination of research • Civic responsibility • Strategic workforce needs • Sustainable, responsible and ethical working practices
TRAD Principles of oncology radiotherapy & technology 4 (Semester 2 – June)	Indicative content: • Haematology, Leukaemia, Upper digestive (oesophagus)/upper respiratory (Head and neck), Paediatrics, Bone and sarcoma, Central nervous system (CNS), Endocrine system Technical: • Application of artificial intelligence (AI), SACT – Systemic Anti-cancer Cancer Therapies (immuno/hormone/chemo), Radiosurgery/stereotactic, Future technological developments in radiotherapy, Treatment verification, image interpretation and decision making for the oncology sites studied, Dose and fractionation for the oncological sites studied. Legal and ethical considerations: • Human factors linked to incident reporting, Consent for paediatrics Patient Management (for the oncology sites in the module): • Psychological impact of cancer, Personalised care, Personal Well Being (Student & Patient)
TRAD Supportive cancer care	• Principles of supportive cancer care • Survivorship care and living well with and beyond cancer

(Semester 3 – September)	• Quality of life, impact of cancer, including patient assessment • Prehabilitation, care during treatment, Rehabilitation • Symptom management • Supported self-management • Impact of physical activity • Late effects and late effects services • Sign-posting skills • Patient education and provision of healthy living information • Reflecting on efficacy of communication skills to support behavioural change • Role extension: Independent prescribing/advanced practice/consultant practice/ACP • Managing own health and wellbeing when caring for others including compassion fatigue/burnout • Safeguarding • Motivational interviewing • Sustainability linked to promoting public health messages and preventing ill health. • Key links to EDI will be considered within the topics outlined above
DA Personal and Professional Development 3 (Long module – 3 semesters)	• Leadership theories and professional frameworks • Performance management and delivery of high-quality services. • Develop skills and competencies required for transition to autonomous practice and in order to support and lead others within complex care systems. • KSB development and readiness for progression through End Point Assessment. • Emotional intelligence to effectively lead and manage change.