BSc (Hons) Therapeutic Radiography

St. George's, University of London

Programme Specification

Academic Session 2022/2023

Programme Specification

A	**NATURE OF THE AWARD**	
1	Programme Title	Therapeutic Radiography
2	Final award	BSc (Hons) Therapeutic Radiography
3	Intermediate awards	Undergraduate Diploma in Radiation Oncology Studies Undergraduate Certificate in Radiation Oncology Studies
4	Awarding institution/body	St George's Hospital Medical School, a constituent college of the University of London.
5	Teaching institution	St George's University of London (SGUL)
6	Programme approved by	Health and Care Professions Council (HCPC) Society/College of Radiographers (SCoR)
7	UCAS/JACS code	B820
8	QAA benchmark statements	Allied Health Professions (Therapeutic Radiography)
9	Date specification produced	June 2022

B	**FEATURES OF THE PROGRAMME**	
1	Mode of study	Full-time
2	Usual length of programme	3 years minimum 5 years maximum
3	Other features of the programme	**Work-based Learning** Clinical experience is gained at one of the following approved placements: • Royal Marsden Hospital NHS Foundation Trust (London and Sutton) • Royal Surrey County Hospital NHS Foundation Trust • Maidstone and Tunbridge Wells NHS Trust

C	EDUCATIONAL AIMS OF THE PROGRAMME

- Provide the students with the knowledge and skills to equip them for a career in therapeutic radiography.
- Develop the students' competence in applying clinical skills to the practice of therapeutic radiography.
- Develop the critical and analytical capabilities of the student in relation to therapeutic radiography.
- Provide the student with the skills to adapt and respond positively to change in personal circumstances, the profession and practice.
- Develop critical, analytical problem-based learning skills and the associated key skills to prepare the student for graduate employment.
- Assist the students to develop the skills required for both autonomous practice and team-working.
- Enhance the development of the students' interpersonal skills.
- Provide education and training that is approved by the HCPC / SCoR
- Provide the students with opportunities for shared multidisciplinary and interprofessional learning with a range of health and social care disciplines including medicine, biomedical science, pharmacy, physiotherapy, diagnostic radiography, occupational therapy, and nursing.

D	LEARNING OUTCOMES OF THE PROGRAMME
	Knowledge and understanding of:
1	Theoretical basis of therapeutic radiography practice.
2	Anatomical, biopsychosocial, and physiological principles related to human health and disease.
3	Current developments in the practice and theory of therapeutic radiography.
4	Fundamental concepts of psychosocial science relevant to the students' becoming an inter-professional team member, practitioner, and healthcare educator.
5	Theoretical basis of scientific research, evidence-based practice, and clinical audit.
6	The context of health and social care provision including the structure and policies of the NHS and of professional regulation.
	Cognitive skills: the ability to
1	Apply the skills needed for academic study and enquiry, including critical thinking.
2	Evaluate research and a variety of types of information and evidence critically.
3	Synthesise information from several sources to gain a coherent understanding of theory and practice.
4	Apply strategies for appropriate selection of relevant information from a wide range of sources and large body of knowledge
5	Utilise decision-making and problem-solving skills
6	Analyse, evaluate, and interpret the evidence underpinning therapeutic radiography critically and with a view to appropriate service improvement in practice.

	Practical skills: the ability to

1	Undertake skilled competent, person-centred, safe, evaluative reflective therapeutic radiography practice.
2	Communicate effectively with individuals, relatives, carers, and health care professionals establishing professional and ethical relationships
3	Make values-based judgements from the verbal and physical presentation of and discussions with an individual whilst evaluating and assessing the delivery of treatment
4	Reflect upon informed decisions about clinical practices consistent with accepted protocols and the individual patients' needs.
5	Effectively and safely apply key skills to the management of individuals, with continual analysis and evaluation of outcome and appropriate modification of interventions.
6	Make evaluative judgements on the technical outcomes from imaging procedures and report the findings accordingly.
	Transferable skills: the ability to
1	Communicate effectively with a wide range of individuals using a variety of means.
2	Evaluate the student's own academic, professional, and clinical performance,
3	Utilise problem-solving and decision-making skills in a variety of theoretical and practical situations.
4	Manage change effectively and respond to changing demands.
5	Take responsibility for personal and professional continuing learning and development
6	Manage time, prioritise workloads and recognise and manage personal emotions and stress, becoming resilient
7	Understand career opportunities, features of employability and potential challenges developing a career path
8	Utilise information management skills.
9	Assume supervisory and assessment roles in practice.
9	Work with others to support teamwork, leadership, and assertiveness
10	Interpret and use numerical and statistical information accurately.

E	Programme structure and features

Programme structure: please see appendix.

The course is studied over three years full-time. Study is undertaken at three academic levels: Year1= Level 4; Year 2 = Level 5; Year 3 = Level 6.   There is an equal balance of time spent between university-based study (at SGUL and KU) and work-based experience in practice.

The course is divided into study units called modules. Each module has a credit value of 15, 30 or 45 credits according to the subject and nature of learning. Each 15-credit module represents approximately 150 hours of student learning, endeavour, and assessment. Each year level has an equivalent of 120 credits.

A key feature of the programme is interprofessional (IP) learning. At Level 4 (Year 1) the module *Essentials of Radiotherapy* combines elements of active learning with different health professional groups including healthcare sciences, medicine, physiotherapy, diagnostic radiography, occupational therapy, pharmacy, and biomedical sciences. IP topic-focussed days are also organised, for example 'Professionalism and Team working within Healthcare'. This event is held in the first term for some 650 Faculty and Medical School undergraduates, providing the opportunity for small groups to explore identities, responsibilities and communication and is facilitated by tutors drawn from both faculties and from NHS Trusts. Further interprofessional learning opportunities take place at levels five and six. Uniquely for therapeutic radiography students, a dissecting room is used for practical demonstrations of anatomy also in small IP groups.

Another feature of the course is that over 50% of the programme is dedicated to clinical practice, designed to assist developing and demonstrating placement skills. The clinical education modules span the first, second and third years of the programme. The first early placement enables students to develop into the 'ST George's Therapeutic Radiographer'. Practice-based learning is highly valued and accounts for 105 credits in total.

Modules incorporate key skills and facilitate personal development as an integral part of the learning process; this is embedded within the Level 6 Portfolio and through the MyKnowledgeMaps (MKM) clinical education software package. Students have access to the SGUL web-based virtual learning environment, Canvas. This enables access to information about the programme including course administration matters, module and assessment details, course learning materials and e-communication.

The programme modules are listed below:

HE Level 4   Modules   Credits

Essentials of Radiotherapy	30
Anatomy, Physiology, and Imaging 1	15
Science and Technology	15
Principles and Practice of Radiotherapy 1	30
Introduction to Clinical Practice	30

Potential award = Undergraduate Certificate in Radiation Oncology Studies
[120 credits]

HE Level 5   Modules   Credits

Principles and Practice of Radiotherapy 2	45
Anatomy, Physiology, and Imaging 2	15
Research and Evidence Based Practice	30
Clinical Application of Skills	30

Potential award = Undergraduate Diploma in Radiation Oncology Studies
[120 credits]

HE Level 6   Modules   Credits

Clinical Competence and Practice	45
Quality and Innovation in Health and Social Care	15
Principles and Practice of Radiotherapy 3	30
Dissemination of Research	30

Potential Award = BSc (Hons) Therapeutic Radiography [360 credits]

F General teaching and learning strategies

Teaching and learning strategies, led by research and evidence base practice, are designed to enable students to transition from more dependent to self-managed learning. This promotes ownership and responsibility for students' own learning as they progress through the course. Similarly, the knowledge and skills required for critical reasoning (analysis, synthesis, and evaluation) will be developed through a progressive approach and a range of key skills featured within the modules. Shared learning with students in other healthcare disciplines helps to promote inter-professional team working. The integration of theory with practice, underpinned by research and the best available evidence, along with the application of professional and key skills are embedded within learning and teaching at all levels. To this end, decision-making and problem-solving approaches through case-based learning are fully utilised.

Teaching and learning are enhanced through a blended learning approach facilitated using the Virtual Learning Environments (VLE). The use of the virtual environment for radiotherapy training (VERT) and Radiotherapy Treatment Planning System software have been successfully embedded at all levels of the programme. For example, in the 1st year it used by tutors to demonstrate the principles and techniques of radiotherapy and interactively through workshops. VERT provides students with the opportunity to practice manipulating equipment controls in a safe learning environment and gain confidence before entering the practice placement. It also facilitates and consolidates new skills without any risk to the patient. There is also the opportunity to position each other, and practice communication whilst manipulating the virtual linear accelerator through use of the 'treatment couch' and real lasers, providing a holistic view of the radiotherapy treatment room.

VERT also provides the facility to enable student learning for anatomy and imaging, with a full set of cross-sectional CT slices that may be viewed in any of the three anatomical planes. This is particularly valuable as clinical practice has seen a surge in the use of online and offline imaging.

Within years 2 & 3 the VERT technology further supports learning in practice placement through scheduled workshops and assignments and an *ad hoc* booking policy facilitates practice of skills at the students' own pace. Service users have been involved in the development of the curriculum and contribute to the delivery of module content particularly relating to cancer care and patient experience.

We are currently the only programme in London to offer a cloud-based radiotherapy treatment planning software system as part of a collaborative partnership with Varian Medical System, called the 'Academic Hub'. Students can access the radiotherapy treatment planning software system (TPS) on a smart device (remotely), or in our dedicated treatment planning suite on campus.

TPS enables students to develop their own treatment plans in a safe environment using software exactly as utilised in the placement setting. Students each have access to an individual workstation facilitating learning at the pace of the individual student. There is also the opportunity for self-directed study to further develop the TPS skills as students progress through the programme. By the end of year 2 students are expected to be proficient in plan generation for basic techniques, this is a core competency. The added facility of image matching software further enables students to practice the skills required for contemporary radiotherapy practice. The environment is safe and not time pressured, as can be problematic in the clinical setting when online matching is required.

Students can develop their own treatment plan in TPS, transfer them to the VERT system and see in 'reality' the impact of beam placement, homogeneity, and organ at risk doses in practice. They can then 'image' the set up created and practice image matching. This enables the full pathway to be simulated thus supporting knowledge skills and competence in a safe environment.

Specific teaching and learning strategies are indicated in the individual module outlines and provided in the Module Directory.

Typical teaching and learning methods employed are listed in section D.

G	Assessment

The purpose of assessment is to enable students to demonstrate that they have fulfilled the learning outcomes of the programme of study and achieved the standard required for the award they seek. Assessment also has a role to play in facilitating achievement of the overall course aims as undertaking items of assessment will form part of the learning process. Assessment is by a combination of coursework (e.g., essays, reports), examinations and clinical practice assessment: techniques are wide and varied to ensure that the range of abilities for individual students is measured appropriately. The strategies enable staff and students to monitor performance against the overall learning outcomes for the course.

Assessment Aims

The overall assessment aims for the programme, in summary, are to:
- demonstrate the achievement of the level of learning within modules.
- demonstrate that the students have a thorough grounding in the academic and clinical components of the course.
- ensure that the students have competence in understanding research relevant to their discipline.
- demonstrate that the students have gained a high level of competency in key skills.
- reflect the students' abilities in determining their progression is appropriate to their abilities.
- highlight individual strengths and weaknesses and give a guide to student performance and progression.
- help facilitate the achievement of the overall course aims and objectives.
- assist learning by providing feedback and feed-forward to students.

Since the course combines academic rigour closely allied to clinical competence the assessment methods effectively reflect factors that lie at the foundation of the discipline. These include patient-centred care, professional knowledge, analysis, and decision making, clinical safety and accuracy, and research methodology. The specific assessment methods and criteria are identified within the Module Guides and assignment briefings. Generic assessment criteria for academic work are indicated in the Student Handbook.

Feedback and Feed-forward Research shows that formative assessment (feedback and feed-forward) improves learning and features across all modules. Tutors provide students with the opportunity to practise each of the assessment strategies and give information on the level of performance expected for demonstrating the achievement of the learning outcomes through feedback and feed-forward; they thus form an integral part of module teaching, learning and assessment. They also guide future studying in the light of past performance and encourage the learner to 'self-supervise'. **Feedback** may be informal (for example in day-to-day encounters between tutors and students or between peers) or formal (for example as part of written or clinical assessment) about

the past performance. **Feed-forward** provides suggestions for what can be done to improve work or achieve success in future assignments. The quality of feedback and guidance provided by radiography tutors to students is consistently praised by external examiners to the programme.

In practice placement, staff involved with supervision and assessment have appropriate training and endorse the philosophies described above. In line with academic assessments, practice assessment submissions are afforded similar internal and external scrutiny processes.

Typical assessment methods employed are listed in section D.

H	Support for students and their learning

- Induction programme for orientation and introducing study skills.
- Student Handbook and Module Guides.
- Extensive library / learning resources at SGUL including a Skills Centre to support writing and guidance from a Literary Fellow at SGUL.
- Wide range of off-site web-based e-resources
- Virtual learning environment, Canvas, for access to electronic course information and learning materials via the internet.
- Computerised radiotherapy treatment planning software packages and VERT
- Clinical education supported by clinical supervisors and assessors located within practice learning sites.
- Close collaboration between the academic centre and practice learning partners via the academic Clinical Lead, Clinical Liaison Tutors and Clinical Liaison Committee.
- Regular visits of not less than four per clinical module by university liaison tutors to the practice placements to support and collaborate with students and the practice-based supervisors and assessors.
- Opportunity for an elective period during year 3 of the programme
- Personal tutors support and advise on pastoral issues.
- Access to Student Achievement Officer for the Faculty
- Access to academic staff, usually by arrangement via email.
- Access to student counsellors on both KU and SGUL sites.
- Access to Teaching and Learning Support Services that aid and guidance on, for example, dyslexia.
- Placement in practice is formalised through a placement management agreement.
- While in placement, students are also supported by the grievance, disciplinary, equality and diversity procedures of the Trust partners.
- Longitudinal Professional Assessment and the Learning Contract assist in facilitating and monitoring progress and in defining specific support and remedial action plans.

I	Criteria for admissions

The admissions policy is intended to open the course to candidates who satisfy the minimum entry requirements having followed the widest possible range of academic routes. The selection procedure is based on candidates meeting the appropriate academic and non-academic criteria and successful performance at interview.

Academic Criteria
Applicants must be able to satisfy the general admissions requirements of SGUL and of Therapeutic Radiography.

School/College leavers who have reached 18 years on admission would **normally** offer a minimum of or the equivalent.

- 120 UCAS points at A-Level (BBC) – science subjects are preferred **and**
- GCSE Grades 4 - 9 (English Language and Maths must be grade 4 or above)
- GCSE Subjects a minimum of five subjects to include English Language, Maths, and Physics, Chemistry and Biology (triple award) or Combined Sciences (Double Award).

Applicants for whom English is not their first language; must have evidence of their proficiency dated within the last two years.

- IELTS (International English Language Testing System)
- 7.0 overall (including 7.0 in written & speaking elements, and no section less than 6.5) Pearson's test 67 overall (including 67 in written element, and no section less than 61)

Further details relating to academic entry criteria may be found at the SGUL website, including applicants offering examinations equivalent to the above and applications from mature and overseas candidates and those holding relevant prior qualifications and degrees (Advanced Standing and Credit Accumulation and Transfer Scheme).

Non-academic criteria

- Applicants from all backgrounds who can demonstrate within their UCAS Personal Statement a desire to work in therapeutic radiography, an awareness of the radiography profession and the supporting aptitudes and qualities will be considered for interview.
- Screening by the Occupational Health Department to assess fitness to study and undertake practise education.
- Declaration of disclosure of any criminal convictions including outstanding and spent via the Disclosure and Barring Service (DBS) enhanced disclosure checks
- Full disclosure of previous educational and professional experience
- Evidence of assessed academic education within past 5 years.

Equal opportunities and disability

Admission procedures are consistent with SGUL Equal Opportunities Procedures and in accordance with current legislation. Candidates with disabilities will be considered in conjunction with the Occupational Health Service, to ensure that they are able to fulfil the requirements of the course.

Widening Participation

Therapeutic radiography admissions utilise the St George's University of London Access Plan to support widening participation for relevant applicants.

J	Career opportunities

A range of support for employment is provided. This includes review of applications and personal statements in response to a typical advertisement and job description, advice on CV writing, one-to-one interview practice and tutorial sessions with therapeutic radiography staff. The Careers Consultant for SGUL provides generic and wider guidance on employment within health care.

The award of the honour's degree confers eligibility for consideration for registration as a therapeutic radiographer with the HCPC.

Interim and aegrotat awards do NOT confer this eligibility and holders are not entitled to the use of the protected title of 'radiographer'.

Professional employment is usually gained within the NHS in the first instance although opportunities in the private sector and abroad are also available.

Postgraduate education may lead to advanced practice, teaching, management, and research roles.

Generic graduate employment opportunities are also seen.

K	Methods for managing, evaluating, and improving the quality and standards of teaching and learning

1 Mechanisms for review and evaluation of teaching, learning, assessment, the curriculum, and outcome standards –

- Module reviews (feedback questionnaires and staff reports).
- First post competency audit completed by employers and students.
- Audit of practice placements.
- External Examiner reports.
- Annual course monitoring report prepared by course tutors and agreed by course committee.
- Annual monitoring and course approval by HCPC / SCoR
- Periodic review and revalidation involving external panel members.

2 Committees with responsibility for monitoring and evaluating quality and standards

- Clinical Liaison Committee.
- Course Committee.
- Stakeholders' forum – membership includes trust staff, students and service uses.
- Board of Examiners
- Faculty Quality Committee.
- Faculty Learning, Teaching & Assessment Committee.
- Faculty Board.
- SGUL Quality Assurance and Enhancement Committee
- SGUL Senate.

3 Mechanisms for gaining student evaluation on the quality of teaching and their learning experience:

- Student Staff Liaison Groups
- Student-Staff Committee, chaired by a student
- Student representation at the Course Committee.
- Student evaluation of academic and practice modules.
- Audit of practice experience.
- Year and course evaluation by group discussion.
- National Student Survey
- Student Experience Surveys (Level 4 and 5)

4 Staff development priorities include:

- Maintaining awareness of practice developments
- Holding or attaining formal teaching qualifications and higher degrees
- Being research active
- Regularly publications
- Gaining fellowship and senior fellowship of the Higher Education Academy
- Fulfilling clearly defined roles in the management of the programme
- Regular updating in professional and IT/Computing developments including training in the use of VLE
- Regular attendance at and participation in conferences and study days

- Peer observation of teaching.
- Participation in the formal appraisal scheme and Institutional staff development programmes
- Regular course team meetings and comprehensive annual review and planning.

L	Regulation of assessment

Assessment rules and Honour's classification
- Course specific regulations are approved by SGUL Senate and are in accordance with the SGUL General Regulations for Students and Programmes of Study
- Minimum pass mark is 40% for each module.
- To progress from year1 to year 2 and from year 2 to year 3, all modules at level 4 and 5 respectively must be passed.
- To qualify for the award of an Honours Degree, students must complete all the course requirements and must pass all modules.
- Only marks from second- and third-year assessments will contribute to the final classification of the degree.
- Marks for each module are weighted according to the credit rating and academic level of the module. The weighting of marks contributing to the degree for levels 4, 5 and 6 is: 0: 30: 70 respectively.

Summary of grades, marks, and their interpretation for honours degree classification

GRADE	MARKS	INTERPRETATION
A	70% - 100%	First Class
B	60% - 69%	Upper Second Class
C	50% - 59%	Lower Second Class
D	40% - 49%	Third Class
F	0% - 39%	Fail

Role of External Examiners

External Examiners are drawn from the academic community of HCPC registered therapeutic radiographers and appointed by the Senate. The role of external examiner is that of moderator. To do this, they:
- approve assessment programmes and items.
- review course work and examination scripts.
- attend the Board of Examiners' meetings.

M	Indicators of quality and standards
•	Course approved by the HCPC and SCoR in 2019

Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content, and teaching, learning and assessment methods of each module can be found in the course handbook and module guides.

Undergraduate Therapeutic Radiography Programme Overview

1st year students	2nd year students	3rd year students	Notes:
Term 1	**Term 4**	**Term 7**	
Induction	Academic Block Modules Principles and Practice of Radiotherapy 2(45 credits) Research and Evidence Based Practice (30 credits) and Anatomy, Physiology, and Imaging 2(15 credits)	Clinical Competence and Practice (45 credits)	
Academic Block Modules Essentials of Radiotherapy (30 credits) and Anatomy, Physiology, and Imaging 1 (15 credits continues throughout year 1)			
Clinical Introduction to Practice (30 credits)	Clinical Application of Skills (30 credits)	Academic Block Modules Principles and Practice of Radiotherapy 3 (30 credits) Dissemination of Research (30 credits) Quality and Innovation in Health and Social Care (15 credits)	Buddying (RePAIR) Year 2 with Year 1
Term 2 and 3	**Term 5 and 6**	**Term 8 and 9**	
Clinical Introduction to Practice (30 credits)	Academic Block Modules Principles and Practice of Radiotherapy 2(45 credits) Research and Evidence Based Practice (30 credits) and Anatomy, Physiology, and Imaging 2(15 credits)	Academic Block Modules Principles and Practice of Radiotherapy 3 (30 credits) Dissemination of Research (30 credits) Quality and Innovation in Health and Social Care (15 credits)	
Academic Block Modules Anatomy, Physiology, and Imaging 1 (15 credits) Principles and Practice of Radiotherapy 1 (30 credits) Science and Technology (15 credits)	Clinical Application of Skills (30 credits)		
		Clinical Competence and Practice (45 credits)	
Clinical Introduction to Practice (30 credits)	Clinical Rotation	Elective	one week rotation other sites
	Clinical Development		Exam board