DEPARTMENT OF RADIOLOGICAL SCIENCES

Program Specification

For guidance on the completion of this template, please refer to Chapter 2, section 2.2 of Part 2 of this Handbook 2 Internal Quality Assurance Arrangement and to the Guidelines on Using the Template for a Program Specification in Attachment 2 (b).

Institution: **King Khalid University**
College/Department: **College of Applied Medical Sciences- Department of Radiological Sciences**

A. Program Identification and General Information

1. Program title and code: **B.Med. Sci. in Daignostic Radiology** Code:**120201**
2. Total credit hours needed for completion of the program: **120 Credit Hours**
3. Award granted on completion of the program: **B.Med. Sci. in Daignostic Radiology**
4. Major tracks/pathways or specializations within the program (eg. Transportation or structural engineering within a civil engineering program or counselling or school psychology within a psychology program) **N / A**
5. Intermediate Exit Points and Awards (if any) (eg. Associate degree within a bachelor degree program) **N / A**
6. Professions or occupations for which students are prepared. (If there is an early exit point from the program (eg diploma or associate degree) include professions or occupations at each exit point) **X-Ray Specialist**

7. (a) New Program	**NO**	Planned starting date	
(b) Continuing Program	**Yes**	Year of most recent major program review	**No**

Organization involved in recent major review (eg. internal within the institution, College & University Curriculum Committees

accreditation review by: **NON** Other: **NON**

8 Name and position (eg department chair person) of faculty member managing or coordinating the program. **Dr. Hussain Mohammed Al mohiy** Position**: Chairman of department**
9. Location if not on main campus or locations if program is offered in more than one location. **Main Campus**

B Program Context

1 Explain why the program is needed.

a. Summarize economic reasons, social or cultural reasons, technological developments, national policy developments or other reasons.

-To fill the need of increase rationing in the number of Saudis specialists in Radiological Sciences due to the spread of health services in the Kingdom and diversity
- Preparing of human resources in coordination and cooperation with the institutions of health services

b. Explain the relevance of the program to the mission of the institution.

The mission is to provide students with educational experiences that will permit them to develop the competencies required to function effectively as advanced imaging technologists and contribute in providing information specialists able to handle the community's information needs.

2. Relationship (if any) to other programs offered by the institution/college/department.

a. Does this program offer courses that students in other programs are required to take? Yes / No: No

If yes, what should be done to make sure those courses meet the needs of students in the other programs?

No organized Procedure Taking Right Now

b. Does the program require students to take courses taught by other departments? Yes / No: Yes

If yes, what should be done to make sure those courses in other departments meet the needs of students in this program?

Review the scientific content with the coordinators of courses taught by other departments and make sure to meet the needs of the program and courses are updated. These courses are:
1. Anatomy
2. Physiology
3. Pathology
4. Arabic language
5. Islamic Culture
6. Computer science

3. Do the students who are likely to be enrolled in the program have any special needs or characteristics that should be considered in planning the program? (eg. Part time evening students, limited IT or language skills) Yes No

If yes, what are they?

NO

4. What should be done in the program to respond to these special characteristics?

N / A

C. Mission and Goals of the Program

Vision:
Build a scientific edifice leadership on a national and international levels and is eligible for graduation elites in the knowledge, skills, responsibility and good role models and is based on the principles and global standards to face the challenges of the era by scientific research in the field of diagnostic medical sciences.

Mission:
Preparation of distinct graduates through academic program based on interaction between different disciplines, including scientific sciences, medical sciences, clinical practices by applying international standards, use modern scientific methods, implementation of the methodology of scientific research, practical and clinical training, apply of modern techniques and to encourage talented students.

Goals:
The department is committed to providing systematically education cover all aspects of scientific sciences, medical sciences and skills required of graduates and benefits to have high-quality medical results and safety in the diagnosis that leading to effective medical treatment. This includes:

- **Study of various medical sciences in anatomy, pathology and physiology of the human body.**
- **Study of diseases, symptoms and various types of medical tests, which can be diagnosed using radiation and waves as well as to acquire additional knowledge about radiotherapy methods.**
- **Demonstrate medical ways of diagnostic imaging and various techniques using electromagnetic, acoustic and nuclear waves from inside or outside the human body.**
- **Demonstrate the various types of ionizing and non-ionizing radiations and sound and nuclear waves used in the medical field and methods of radiation production, safety and radiation protection.**
- **Study of the computer applications and information technology in fields of medicine, sciences and administrative as a tool for scientific research.**
- **Practical and clinical training on diagnostic devices, accessories, applications of medical imaging, modern techniques and duties of quality control and quality assurance.**
- **Understand the professional rules, regulations, ethical, standards, policies and procedures for health care, needs of the Kingdom-SA to provide organizations with national and international with professional elites with vision and knowledge in radiological sciences and medical imaging.**
- **Care with the gifted and creative students to interact with the rapid scientific changes in the techniques of modern radiology to continue learning to acquire higher skills and scientific knowledge to support scientific research**

1. List any major changes or strategic new developments planned for the program within the next three to five years to help achieve its mission. For each change or development describe the major strategies to be followed and list the indicators that will be used to measure achievement.

Major Changes or Developments	Strategies	Indicators
Considering developing the program after adding others Specialities	**Audit requirements of the program in consultation with the needs of employers and seeking suggestions**	**Provides new job opportunities for graduates.**
Improve the quality of the program on the basis of the criteria for NCAAA.	**Review and evaluate the program annually.**	**Increase in the number of students wishing to enrol in the Department.**
Improving Nuclear Medicine, Radiation	**The use and close integration of Dept**	**Laboratorie(s) fully equipped with required instruments for basic**

Protection and Radiotherapy courses towered creating separate Dept. in this field of specialty.	**elements, College capabilities and University power to establish laboratories provided with advanced equipments taking into consideration the vision of the university and the economic factors.**	**education process Qualified staff joined the program**

D. Program Structure and Organization

1 Program Description.

A program or department manual should be available for students or other stakeholders and a copy of the information relating to this program should be attached to the program specification.
This information should include required and elective courses, credit hour requirements and department/college and institution requirements, and details of courses to be taken in each year or semester.

2. Development of Special Student Characteristics or Attributes

List any special student characteristics or attributes beyond normal expectations that the institution, college or department is trying to develop in all of its students. (Normally one or two, up to a maximum of four that directly reflect the program mission and distinguish this program from others in the same field and make it exceptional. Eg. Graduates particularly good at creative problem solving, leadership capacity, commitment to public service, high level of skills in IT). For each special attribute indicate the teaching strategies and student activities to be used to develop it and the evidence to be used to assess whether it has been developed in all students.

Special Attributes	Strategies or Student Activities to be Used throughout the Program to Develop These Special Attributes
Skills in both administrative and scientific field of radiological sciences	**Strategy: Students may help in: radiology department management, patient records and schedules.**
	Evidence: develop interpersonal skills and to carry responsibility
Computer literacy	**Strategy: Good use of computers and MS Office programs**
	Evidence: Study ICDL and also applied computer in medical imaging
Skills in dealing with radiation protection and radiation accidents	**Strategy: Should take Responsibilities concerning the use of radiation and monitoring of equipment safety and quality control**
	Evidence: Abilities to carry out of radiation safety and radiation protection principles to protect themselves, patients and coworkers and shielding calculations
English Literacy	**Strategy: Ability to use professional English Language**
	Evidence: Study two extensive English courses related to medical health

Skills distance learning and information technology	**Strategy: Provide students a course-work designed to develop learning proficiencies through e-learning.**
	Evidence: communicate and interact effectively with the available electronic education access.
Effective Communication	**Strategy: Effective communication with colleague , faculty members and society**
	Evidence: Study a course in professional ethics in medical field

3.Required Field Experience Component (if any) (Eg. internship, cooperative program, work experience)

Summary of practical, clinical or internship component required in the program. Note that a more detailed Field Experience Specification comparable to a course specification should also be prepared in a separate document for any field experience required as part of the program.
a. Brief description of field experience activity **1. On-campus lab training.** **2. Adjoin clinical training on-campus clinics and external hospitals.** **3. Internship clinical training**
b. List the major intended learning outcomes for the program to be developed through the field experience: **1.Optimal skill in the use of the various X-ray equipments.** **2. Application of standards of quality control and quality assurance in the use of X-ray equipments.** **3. Skill of the safe use of radiation sources and methods of radiation protection**
c. At what stage or stages in the program does the field experience occur? (eg. year, semester) **Starting from the fifth level to level eight and one academic year internship**
d. Time allocation and scheduling arrangement. (Eg. 3 days per week for 4 weeks, full time for one semester) **- Accompanying practical for the fourth level students at the radiology clinics -KKU.** **- One day (full time) per week over the semester for each level (Starting from level 5 to 8) at external hospitals and KKU-Clinics.** **- Full academic year for students of the fifth year**
e. Number of credit hours: **Five Credit Hours for level three and four** **Six Credit Hours for level five and six** **Eight Credit Hours for level seven** **Nine Credit Hours for level eight**

4. Project or Research Requirements (if any)

Summary of any project or thesis requirement in the program. (Other than projects or assignments within individual courses) (A copy of the requirements for the project should be attached.)
a. Brief description **Non**
b. List the major intended learning outcomes of the project or research task.

c. At what stage or stages in the program is the project or research undertaken? (eg. year, semester) **N/A**
d. Number of credit hours **N/A**
e. Summary description of provisions for student academic advising and support.
f. Description of assessment procedures (including mechanism for verification of standards)

5. Development of Learning Outcomes in Domains of Learning

For each of the domains of learning shown below indicate: • The knowledge or skill the program is intended to develop and the level of that knowledge and skill. (as a guide see general descriptions of knowledge and skills in the National Qualifications Framework for the qualification level of this program; • The teaching strategies to be used in courses in the program to develop that knowledge and those skills. (This should be a general description of the approaches taken throughout the program but if particular responsibility is to be assigned to certain courses this should be indicated.); • The methods of student assessment to be used in courses n the program to evaluate learning outcomes in the domain concerned.
a. Knowledge
(i) Summary description of the knowledge to be acquired: **• Medical education knowledge of the anatomy, physiology, pathology, positioning, and radiographic technique to accurately demonstrate anatomical structures on imaging receptors.** **• knowledge of the principles of radiation protection to patient, self, colleagues, and general public.** **• knowledge of the Safely administer ionizing radiation to humans for diagnostic purposes by correctly determining exposure factors to achieve optimal radiographic techniques.** **• Optimal use of the various X-ray machines (models, operation, accessories and techniques).** **–** **• Knowledge on basic and advanced techniques in diagnostic imaging and patient investigations, positioning and image analysis.** • **• knowledge of the human organs and systems to provide patient care and comfort in a professional manner regardless of patient's personal attributes, nature of disease or illness, and without discrimination.** **• knowledge of the problem-solving skills to recognize and respond to emergency conditions and initiate life-saving first aid and basic life-support procedures.** **• knowledge of the photographic and geometric principles of Radiologic technology to evaluate radiographic images for image quality.** **• Knowledge of radiation sources , production, safety and radiation protection.** **• Computer and its applications in the medical field.** **• Understanding of professional rules, regulations, ethics, and policies in health care.**
(ii) Teaching strategies to be used to develop that knowledge: **1. Theoretical lectures (face to face and online).** **2. Practical Training (laboratories, clinics, hospital).** **3. Clinical training (clinics, hospital)** **4. Assignment ,group work, research and practical Reports**
(iii) Methods of assessment of knowledge acquired: **• Continues assessment, theoretical and practical (exams, quizzes, assignments, research and practical Reports) 50 %**

- **Final exam theoretical and practical 50 %**

b. Cognitive Skills

(i) Cognitive skills to be developed and level of performance expected

Student will be able to:

- **Produce a high quality radiographic images.**
- **Apply radiation safety and radiation protection.**
- **Apply proper infection control procedures.**
- **Identify and respond to a radiological emergency .**
- **judge and discreet in the technical performance of medical imaging procedures.**
- **communicate effectively in the medical environment and act as a team member in radiology department.**
- **practice professional manner with ethical values enhanced by the profession of Radiologic technology.**
- **participate in professional activities and continuing education to obtain a feeling of pride in self and the profession.**
- **Demonstrate an understanding of other imaging disciplines and advanced imaging modalities to facilitate professional growth and continue improvement of skills.**
- **utilize insights gained in liberal arts and science courses to promote continued professional and personal growth and increase usefulness as a citizen of society.**

(ii) Teaching strategies to be used to develop these cognitive skills

- **Training schedules are required to various clinics at KKU-Campus.**
- **Training schedules are required to various clinics at hospitals around the KKU area.**
- **Train students on various clinic investigations and situations.**
- **Assist the students in obtaining handbooks, references, reports, manuals and supplies needed to support the cognitive skills.**

(iii) Methods of assessment of students cognitive skills

- **Practical exam evaluation**
- **On field continues practical evaluation**
- **Case study assessment**
- **Oral and written assesment**

c. Interpersonal Skills and Responsibility

Description of the level of interpersonal skills and capacity to carry responsibility to be developed

1. Student conducts himself in a professional manner, responds to patient needs and supports colleagues and associates in providing quality patient care.
2. Student delivers patient care and service unrestricted by the concerns of personal attributes or the nature of the disease or illness, and without discrimination regardless of sex, race, creed, religion, or socioeconomic status.
3. Student provide services to humanity with full respect for the dignity to mankind.
4. Student acts as an agent through observation and communication to obtain pertinent information from the physician to aid in the diagnosis and treatment management of the patient.
5. Student practices ethical conduct appropriate to the profession, and protects the patient's right to quality radiologic technology care.
6. Student respects confidences entrusted in the course of professional practice and respects the patient's right to privacy.
7. The student will be able to design a personal professional development plan.

(ii) Teaching strategies to be used to develop these skills and abilities

- **Student must follow instructor's orders precisely and conform to the regulations concerning the use of radiation.**
- **Students may help to keep patient records, prepare patient schedules, evaluate purchases of equipment or manage a radiology department.**
- **Additional responsibilities include the ongoing monitoring of equipment safety and quality**
-
- **At least one group assignment task in each appropriate course. Increasing level of demand each year. Reports include section on group investigation processes.**
- **Term papers, lab work, and special assignments in some courses (including senior projects) will require students to search for data and/or information on their own.**
- **Students will be exposed to ethical and professional issues in designated courses.**
- **Supervisors in work experience placements requested to include information about ethical issues met in practice and how they are resolved.**
- **Case studies including issues involving ethical and moral responsibility included in relevant courses.**

(iii) Methods of assessment of students interpersonal skills and capacity to carry responsibility

- **On field Continues assessment**
- **Log book assessment**

d. Communication,

(i) Description of the communication,

One of the fundamental purposes of the college education is to develop the independent growth of students in all roles of life as follow:

1. Demonstrate effective communication skills to all members in the healthcare team in Arabic and English both orally and writing.

2. Students should have sufficient mathematical and statistical knowledge to interpret, suggest and evaluate situations and to take proper decision.

3. Provide students a course-work designed to develop learning proficiencies.

4. Encourage students to suggest better ways of doing things.

5. Develop students' talents, intellectual interests, and creative abilities.

6. Communicate and interact effectively with patients, the members of the healthcare profession, and others

(ii) Teaching strategies to be used to develop these skills

- **Student enrolled on two courses in Arabic and two courses in English in general education which will require reading, writing.**
- **Student enrolled on two course in computer in general education which will prepare students to use available software.**
- **Student enrolled on one statistics course which will provide the necessary foundation for the students to develop numerical skills.**
- **Student enrolled on one course in communication skills in general education which will enhance the student's communication skills.**
-

(iii) Methods of assessment of communication skills

- **Continues assessment**
- **Observation and evaluation.**
- **Assignment (search reports)..**

e. Psychomotor Skills (if applicable)

(i) Description of the psychomotor skills to be developed and the level of performance required:

1. Reaching over head in order to manipulate the overhead x-ray equipment.
2. Standing 4-6 hours daily to perform radiographic examinations on patients.
3. Managing from 1-10 Kg in lifting and carrying different sized cassettes (x-ray film holders), pushing portable x-ray equipment, and assisting in lifting and turning patients.
4. Demonstrating good near and far visual acuity in monitoring patients and equipment while performing radiographic examinations

(ii) Teaching strategies to be used to develop these skills:

1. Demonstrate the new skill before asking students to do it.
2. Demonstration is performed according to approved standards.
3. Verbally explain each step in the process while demonstrate it.
4. Demonstrate the skill in a role play or by using models before demonstrating with patients if possible.
5. In the demonstration, use materials, equipment and accessories.
6. During the demonstration, encourage students to ask questions.
7. Ask students questions such as "What should I do next?" or, "What would happen if…" to keep their interest and test their understanding.
8. Make sure the students do not practice the procedure using incorrect technique.
9. Encourage students to take personal responsibility for problems.

(iii) Methods of assessment of students psychomotor skills:

1. Ask students to assess their own strengths and weaknesses in performing the skills.
2. Use a checklist or observation guide to give written feedback on student performance.
3. Clearly state or show and end product clarifying expectations and outcomes before they practice.
4. When giving feedback, point out things students are doing well and offer suggestions for improvement.
5. Provide specific feedback as soon as possible after student is observed

6. Admission Requirements for the program

Attach handbook or bulletin description of admission requirements including any course or experience prerequisites.
See attachments

7. Attendance and Completion Requirements

Attach handbook or bulletin description of requirements for:
a. Attendance.
b. Progression from year to year.
c. Program completion
See attachments

E. Regulations for Student Assessment and Verification of Standards

1. Regulations or policies for allocation and distribution of grades

If the institution, college, department or program has policies or regulations dealing with the allocation or distribution of students grades state the policy or regulation, or attach a copy.

See attachments

2. What processes will be used for verifying standards of achievement (eg check marking of sample of tests or assignments? Independent assessment by faculty from another institution) (Processes may vary for different courses or domains of learning).

No Procedure Taking Right Now

F Student Administration and Support

1. Student Academic Counselling

Describe arrangements to be made for academic counselling and advice for students, including both scheduling of faculty office hours and advice on program planning, subject selection and career planning (which might be available at college level)

During the first semester of the Program, students will be introduced to the Radiologic Sciences program. This will include information on the departmental policies, clinical policies, medical ethics, and interpersonal relationships, use of radiation sources, radiation protection considerations, and professional committees. The students will be supported through:

- **Students are assigned to an academic advisor.**
- **Faculty members post their Office hours clearly**
- **Chairman of Department is available for advice and support.**

2. Student Appeals

Attach regulations for student appeals on academic matters, including processes for consideration of those appeals.

According to the KKU regulations. (See attachment)

G. Text and Reference Material

1. What process is to be followed by faculty in the program for planning and acquisition of text, reference and other resource material including electronic and web based resources?

Annually provide KKU Central Library with a list of books and references.

2. What processes are to be followed by faculty in the program for evaluating the adequacy of book, reference and other resource provision?

- **Courses coordinators submits lists of books and references required for their**
- **courses to the Chairman of the Department to be presented in the Dept Board meeting.**
- **The lists of books are reviewed by specialist in the Dept. Board meeting for**
- **approval and raised to the Dean of Collage and consequently to the KKU Central**
- **Library.**

H. Faculty and other Teaching Staff

1. Appointments

Summarize the process of employment of new teaching staff to ensure that they are appropriately qualified and experienced for their teaching responsibilities.

According to the rules and regulations of the KK university recruitment

2. Participation in Program Planning, Monitoring and Review

Explain the process for consultation with and involvement of teaching staff in monitoring program quality, annual review and planning for improvement.

Periodic meetings for the Professional Academic Committee for Reviewing, Planning,

Development and Follow up.

- **Sharing in continuing education programs offered by the university.**
- **All collage members are advised to share in workshops and seminars of education.**
- **Feedback of students is essential through questioners**

3. Professional Development

What arrangements are made for professional development of teaching staff for:

(a) Improvement of skills in teaching?

- **Perform workshops for education quality.**
- **Development of education tools and reference materials.**
- **Activating the recommendations of the various committees concerning the**
- **education development.**
- **Supporting and shearing in scientific researches, training courses and**
- **conferences.**

(b) Other professional development including knowledge of research and developments in their field of teaching?

- **Attend conferences, continuing education programs, workshops and training courses.**
- **Continue to develop teaching methods such as e-learning.**
- **Take advantage of the different bodies and organizations**

4. Preparation of New Teaching Staff

Describe the process used for orientation and/or induction of new, visiting or part time teaching staff to ensure full understanding of the program and the role of the course(s) they teach as components within it.

- **Introductory workshops and Orientation Program to the new College member.**
- **Provide the new member with materials and sources of rules and regulations of the university as well as the policy and procedures of the dept.**
- **Assigned a mentor as an advisor for the first year of employment.**

5. Part Time and Visiting Teaching Staff

Provide a summary of Program/Department/ College/institution policy on appointment of part time and visiting teaching staff. (ie. Approvals required, selection process, proportion of total teaching staff etc.)

According to the rules and regulations of the KK university

I. Program Evaluation and Improvement Processes

1. Effectiveness of Teaching

a. What processes will be used to evaluate and improve the strategies planned for developing learning in the different domains of learning? (eg. assessment of learning achieved, advice on consistency with learning theory for different types of learning, assessment of understanding and skill of teaching staff in using different strategies)

- **Annually evaluation workshop**
- **Course report review and evaluation .**
- **Peer review**
- **Students feedback**
- **Field Expertise feedback**

b. What processes will be used for evaluating the skills of teaching staff in using the planned strategies? • **Peer reviews** • **course reports** • **Student Course evaluation feedback**

2. Overall Program Evaluation

a. What strategies will be used in the program for obtaining assessments of the overall quality of the program and achievement of its intended learning outcomes:
(i) from current students and graduates of the program? • **students Questionnaires feedback. –** • **Statistical analysis for the results of student exams.** • **Assessment of educational performance** • **Graduate's feedback** • **Establishing an internet open forum to get student feedback**
(ii) from independent advisors and/or evaluator(s)?. • **self assessment report reviewed by external experts.** • **professional Radiological societies assessment.**
(iii) from employers and/or other stakeholders. • **Employers surveys** • **Employment rate and leadership positions**

b. What key performance indicators will be used to monitor and report annually on the quality of the program? • **Average score on an overall program quality item on a student survey on completion of the program (50% response rate required).** • **Completion rate foe students in first year of the program.** • **Proportion of students who complete the full program in minimum time.** • **Proportion of students (available for employment) who are employed within six months of graduation.** • **Proportion of full time faculty who completed training programs in teaching or attended conferences during the year.** • **Number of refereed journal, book or monograph publications during the year per full time faculty member**
c. What processes will be followed for reviewing these assessments and planning action to improve the program? • **Academic departments, collageues and Academic development centre review the recommendations and make plans for implementation and follow up of the procedure.** • **Implementation of recommendations is carried out by faculty members in the academic departments.**

Attachments.

1. Copies of regulations and other documents referred to in template preceded by a table of contents.
2. Course specifications for all courses including field experience specification if applicable.

Allocation of Responsibilities for Learning Outcomes to Courses

Learning Outcomes																	
Course Code and Number	**211 RAD**	**221 RAD**	**222 RAD**	**223 RAD**	**231 RAD**	**214 RAD**	**312 RAD**	**324 RAD**	**325 RAD**	**321 RAD**	**313 RAD**	**326 RAD**	**342 RAD**	**327 RAD**	**428 RAD**	**429 RAD**	**443 RAD**
Knowledge Facts Concepts, theories Procedures	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Cognitive Skills Apply skills when asked Creative thinking and problem solving	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Interpersonal Skills and Responsibility																	
Responsibility for own learning	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Group participation and leadership	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Act responsibly- personal and professional situations	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Ethical standards of behaviour	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Communication Skills																	
Oral and written communication	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Use of Computer	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Basic maths and statistics	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Psychomotor Skills																	

√ Major Responsibility x Minor Responsibility

(Note: Add additional sheets if necessary to provide for all required courses in the program including any courses offered by other departments)

Allocation of Responsibilities for Learning Outcomes to Courses

Learning Outcomes														
Course Code and Number	444 RAD	432 RAD	445 RAD	446 RAD	447 RAD	448 RAD	312 RAD	211 RAD	221 RAD	222 RAD	223 RAD	231 RAD	214 RAD	312 RAD
Knowledge Facts Concepts, theories Procedures	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Cognitive Skills Apply skills when asked Creative thinking and problem solving	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Interpersonal Skills and Responsibility														
Responsibility for own learning	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Group participation and leadership	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Act responsibly- personal and professional situations	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Ethical standards of behaviour	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Communication IT and Numerical Skills														
Oral and written communication	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Use of Computer	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Basic maths and statistics	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Psychomotor Skills														

√ Major Responsibility x Minor Responsibility

(Note: Add additional sheets if necessary to provide for all required courses in the program including any courses offered by other departments)

Allocation of Responsibilities for Learning Outcomes to Courses

Learning Outcomes				
Course Code and Number	**223 Phy**	**211 ANT**	**214**	**334 PAT**
Knowledge Facts Concepts, theories Procedures	√	√	√	√

Cognitive Skills Apply skills when asked Creative thinking and problem solving	√	√	√	√
Interpersonal Skills and Responsibility				
Responsibility for own learning	√	√	√	√
Group participation and leadership	√	√	√	√
Act responsibly- personal and professional situations	√	√	√	√
Ethical standards of behaviour	√	√	√	√
Communication IT and Numerical Skills				
Oral and written communication	√	√	√	√
Use of Computer	√	√	√	√
Basic maths and statistics	X	X	X	X
Psychomotor Skills				

√ Major Responsibility x Minor Responsibility

(Note: Add additional sheets if necessary to provide for all required courses in the program including any courses offered by other departments