Department of Optometry

Bachelor of Optometry

Program Outcomes

POs:

[PO.1]. Problem solving and management concerns optometry: To be able to design, articulate, manufacture, manage cases and prescribe diverse optical aids including spectacles, sunglasses, ophthalmic lenses, contact lenses etc.

[PO.2]. Optometry knowledge: To be a service provider to patients–efficiently, competently and in a lucrative manner –under the range of various financial, social and psychological setting.

[PO.3]. Problem analysis: To exhibit the skills, scientific approach and statistical principles around the fundamentals of practice of optometry.

[PO.4Develop/design solution: To use evidence based, research knowledge and research methods including designs of examination, analysis and interpretation of data and cumulate the information thus gained to come to a valid conclusion.

[PO.5]. Design and develop complex problem: To come forward with solutions for complicated optometry problems and develop systems that meets the requirements which is feasible for the public health and safety, and the cultural, societal and environmental considerations.

[PO.6]. Optometric assessment: To examine, diagnose, intervene and advise treatment, modality and solution for various ocular pathological or non pathological conditions.

[PO.7]. Critical thinking: To interpret results of common investigative methods, differential and definitive diagnoses, formulate and implement treatment and management line of approach, including the skillful use of optometric/ophthalmic materials.

[PO.8]. Professional discipline: To be a competent, well-disciplined and compassionate practitioner who thinks of community service as a prior-most duty and is

also able to carry out Public Health Optometry projects and vision screening eye camps for educating on ocular hygiene and related counseling.

[PO.9]. To apply ethical principles and to maintain professional integrity in the optometric practice

[PO.10]. Communication: To communicate effectively and efficiently on complex optometric activities with optometry body and with community as such in eye screening. To be able to comprehend and derive reports and results, provide effective presentations for the problem and solution.

[PO.11]: Life long learning: To recognize the requirement for and prepare the groundwork for the students providing them the ability to involve in self-dependent and life- long learning in the broadest and advanced context of technological change.

[PO-12]: Environment and sustainability: Understand the implication of optometry practice in community as well as on environmental and portray the knowledge of required productive, sustainable and feasible progress.

Department of Optometry

Program Specific Outcomes

PSOs:

[PSO.1] Will be knowledgeable in ophthalmic and systemic care to practice as an optometrist and thegraduates will interpret results of common ophthalmic procedures, develop differential and definitive diagnoses, including the skillful use of vision care instruments and material.

[PSO.2] Will be skillful in techniques and current technologies, skilful in problem solving, and will possess professional, ethical and compassionate behavior and standards.

[PSO.3] Will provide quality eye and vision care through comprehensive and appropriate examination, measurement, assessment, diagnosis, treatment and management of eye and vision conditions.

[PSO.4] Will be cognizant and responsive to the health care needs of the community and possess a commitment to continuously improve knowledge and abilities.

[PSO.5] Will work and communicate effectively in an inter-disciplinary environment, either independently or in a team, and demonstrate significant leadership qualities.

[PSO.6] Will possess the initiative and critical acumen required to continuously improve their knowledge through self-study, continuing education program or higher studies.

ARKA JAIN University
Jharkhand

Department of Optometry

Semester I

Department of Optometry

Subject: Geometrical Optics I
Code: OPT21004
4 Credits | Semester 1

Course Outcomes: At the end of the course, students will be able to:

CO1. Understand concepts and theories of light, its nature & properties

CO2. Understand concepts and properties of mirror & lenses.

CO3. Identifying various of lens& mirror during practical

CO4. Applying formula calculation related to vergence

Subject: Anatomy
Code: OPT21001
Credit - 4 | Semester 1

Course Outcomes: At the end of the course, students will be able to:

CO1. Understand the concept & terminology of Human Anatomy
CO2. Enlist and memorizing the structure, function & location of cells, tissues and major human organ's system/part
CO3. Recognizing the different organ and organ system
CO4. Understand relationship between different organ of the body with organ system
CO5. Develop a holistic approach to human health and medical research

Department of Optometry

Subject: Physiology
Code: OPT21002
4 Credits | Semester 1

Course Outcomes: At the end of the course, students will be able to

CO1. Understand concepts & terminology of human physiology

CO2. Enlist and memorizing the function & structure of cells, tissues and major human organs systems/parts

CO3. Understand function of various organ systems and employing its knowledge to identify diseases related to them.

CO4. Identify and explaining the interrelation between different organ systems.

CO5. Differentiate various organs & organs system

Subject: Biochemistry

Code: OPT21003
4 Credits | Semester I

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the concepts and theories of Biochemistry related to optometry
CO2. Understand the chemistry of carbohydrates, proteins, lipids and amino acids.
CO3. Analyze the mechanism of enzyme action and identify the classes and factors affecting action

CO4. Understand the biochemical testing and analyzing the test result

Department of Optometry

Subject: English

Code: ENG21025

4 Credits | Semester I

Course Outcomes: At the end of the course, students will be able to:

CO1- Establish fluent professional communication between the clinician and the patient

CO2- Emphasize on the writing skills of the student for better writing of articles or manuscripts

CO3- Appreciate literature through critical study of selected literary work

CO4. Demonstrate effective speaking skills

CO5. Demonstrate comprehension in reading text

ARKA JAIN University
Jharkhand

Department of Optometry

Semester II

Department of Optometry

Subject: Ocular Anatomy
Code: OPT22005
3 Credits | Semester II

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the concepts & terminology of Ocular Anatomy

CO2. Enlist and memorizing the structure, function & location of different parts of eye

CO3. Recognize the different Ocular structures

CO4. Understand relationship between different Ocular structures

CO5. Develop a holistic approach to Ocular health and medical research

Subject: Ocular Physiology
Code: OPT22006
4 Credits | Semester II

Course Outcomes: At the end of the course, students will be able to

CO1. Understand concepts & terminology of Ocular physiology
CO2. Enlist and memorizing the functions & structure of Eyes
CO3. Understand function of various ocular structures and applying this knowledge to identify diseases related to them
CO4. Identify and explaining the interrelationships between different Ocular structures
CO5. Differentiate various Ocular structures.

Department of Optometry

Subject: Ocular Biochemistry
Code: OPT22007
2 Credits |Semester II

Course Outcomes: At the end of the course, the students will be able to

CO1. Understand the concepts and theories of Biochemistry
CO2. Understand the chemistry of carbohydrates, proteins, lipids and amino acids related to eye
CO3. Understand the basic metabolism of bio molecules and their energetic related to eye
CO4. Understand the role of Minerals with respect to eyes
CO5. Understand the process of biochemical testing and analyzing the test result.

Subject: Physical Optics
Code: OPT22008
4 Credits | Semester II

Course Outcomes: At the end of the course, students will be able to:

CO1. Understand concepts and theories of light, its nature & properties

CO2. Understand concepts & theories of interference, polarization & diffraction

CO3. Understand concepts & operations of various optical instruments

CO4. Understand concepts of Laser & Radiometry

Department of Optometry

Subject: Geometrical optics II
Code: OPT22009
3 Credits | Semester II

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the concepts of schematic & Reduced Eye and Visual Acuity

CO2. Understand the concept of refractive error and its management options

CO3. Understand the concept of image formation by different types of lenses

CO4. Understand the concept of Accommodation & Presbyopia and different options of presbyopia

CO5. Understand the concepts of Eye with and without crystalline lens

Subject: Basics of computer
Code: CSE22057
2 Credits | Semester II

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the fundamentals and history of computer
CO2. Understand the concept of Computer's Memory Management and processing
CO3. Understand and applying the basic functions on document sheet, Spread sheet and presentation slide
CO4. Understand the concept of Internet, Web and Websites
CO5. Understand and applying the Web surfing, E mail and recognize e mail netiquette

Department of Optometry

Subject: Clinical Optometry 1

Code: OPT22010

3 Credits | Semester II

Course Outcomes: At the end of the course, students will be able to do

CO1. Construction of a table top telescope – all three types of telescopes.
CO2. Construction of a tabletop microscope
CO3. Imaging by a cylindrical lens – relationship between cylinder axis and image orientation
CO4. Imaging by two cylinders in contact – determination of the position of CLC; verification of CLC using a spherical lens with power equal to the spherical equivalent; orientations and position of the line images and their relation to the cylinders' powers and orientations
CO5 Imaging by two cylinders in contact – determination of the position of CLC; verification of CLC using a spherical lens with power equal to the spherical equivalent; orientations and position of the line images and their relation to the cylinders' powers and orientations
CO6. Imaging by a sphero cylindrical lens – sphere and cylinder in contact – determination of the position of CLC; verification of CLC using a spherical lens with power equal to the spherical equivalent; orientations and position of the line images and their relation to the cylinder's power and orientation

Department of Optometry

Semester III

Department of Optometry

Ocular Microbiology
Code: OPT23001
1 Credits | Semester III

Course Outcomes: At the end of the course, students will be able to

CO1. Understand about the characteristics of bacteria, viruses, fungi and parasites.
CO2. Understand of the principles of sterilization and disinfection in hospital and ophthalmic practice.
CO3. Understand of the pathogenesis of the diseases caused by the organisms in the human body with particular reference to the eye infections.
CO4. Understand basic principles of diagnostic ocular Microbiology.
CO5. Understand about the characteristics of bacteria, viruses, fungi and parasites.

Subject: Visual Optics 1
Code: OPT23012
2 Credits | Semester III

Course Outcomes: At the end of the course, students will be able to:

CO1. Understand about the various optical constants of the eye & their measurements

CO2. Understand the various aspects of vision and measuring visual acuity

CO3. Have knowledge about various optical defects of the eye

CO4. Analyze about various refractive anomalies of the eye

CO5. Apply all the theoretical skills on practical purpose

Department of Optometry

Subject: Optometric optics 1
Code: OPT23013
3 Credits | Semester III

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the concept of different phenomenon of light & basic of Ophthalmic prism.
CO2. Understand the concept& terminology use to describe the ophthalmic lenses
CO3. Understand the concept of different types & design of ophthalmic lenses
CO4. Understand the concept of Prismatic effect
CO5. Apply the Prentice's Rule

Subject: Optometric Instruments
Code: OPT23014
3 Credits | Semester III

Course Outcomes: At the end of the course, students will be able to

CO1. Understand and application of the refractive instrument

CO2. Understand & design, application and use of refractive instrument use in refraction room

CO3. Understand the optics and applying the basic functions of Ophthalmoscope

CO4. Understand the optics and applying the basic functions and importance of examination of anterior segment

CO5. Understand and applying the various tools to measure ocular condition

Department of Optometry

Subject: Ocular Disease 1
Code: OPT23015
3 Credits | Semester III

COURSE OUTCOMES: By the end of this course, students will be able to:

CO1. Understand the concept of different Ocular diseases of anterior segment of Eye

CO2. Apply the concept of anatomy & Physiology of Eye while understanding the Pathology of different ocular diseases

CO3. Utilize the concept of clinical features of the diseases for the differential diagnosis of the anterior segment diseases

CO4. Analyze the concept of clinical features of the diseases for the management of anterior segment diseases

CO5. Understand the concept of different Ocular diseases of anterior segment of Eye

Subject: Clinical Examination of visual system
Code: OPT23016
2 Credits | Semester III

COURSE OUTCOMES: By the end of this course, students will be able to:

CO1. Understand about the process of history taking and its clinical importance

CO2. Understand about various clinical examination tests available

CO3. Analyze the importance of pupillary examination in the field of optometry

CO4. Apply all the theoretical knowledge on practical field

CO5. Understand about the process of history taking and its clinical importance

Department of Optometry

Subject: Indian Medicine and Telemedicine
Code: OPT23017
1 Credit | Semester III

Course Outcomes: At the end of the course, students will be able to:

CO1- Aware of traditional health care systems

CO2- Aware of latest healthcare systems

CO3- Knowledgeable about the telemedicine practices in India

CO4- Understand the traditional treatment methods

CO5- Correlate the treatment of ocular diseases using telemedicine with ocular refractive anomalies

Subject: Clinical Optometry II
Code: OPT23018
3 Credits | Semester III

Course Outcomes: At the end of the course, students will be able to perform

CO1. Visual Acuity chart/drum

CO2. Retinoscopy

CO3. Trail Box, Jackson Cross cylinder

CO4. Direct ophthalmoscope

CO5. Slit lamp Biomicroscope

Department of Optometry

Semester IV

Department of Optometry

Subject: Optometric optics II & Dispensing Optics

Code: OPT24019
3 Credits | Semester IV

COURSE OUTCOMES: By the end of this course, students will be able to:

CO1. Understand to select the tool power for grinding process
CO2. Understand about different types of materials used to make lenses and its characteristics
CO3. Understand about Spectacle frames, various Lens designs,
CO4. Analyze various dispensing spectacle lens and frames based on the glass prescription
CO5. Evaluate various facial measurements – Inter pupillary distance measurement and measuring heights (single vision, multifocal, progressives)

Subject: Visual Optics 2

Code: OPT24020
2 Credits | Semester IV

Course Outcomes: At the end of the course, students will be able to

CO1. Understand about accommodation, its anomalies and their practical significance

CO2. Understand about convergence, its anomalies and their clinical significance

CO3. Have knowledge about retinoscopy and its procedure

CO4. Analyze the importance of subjective and objective refraction

CO5. Apply the theoretical knowledge on clinical practice

Department of Optometry

Subject: Ocular disease II & Glaucoma
Code: OPT24021
3 Credits | Semester IV

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the concept of different Ocular diseases of posterior segment of Eye

CO2. Apply the concept of anatomy & Physiology of Eye while understanding the Pathology of different ocular diseases

CO3. Utilize the concept of clinical features of the diseases for the differential diagnosis of the ocular diseases

CO4. Analyze the concept of clinical features of the diseases for the management of ocular diseases

Subject: Pathology
Code: OPT24022
1 Credits | Semester IV

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the basic concepts of infection, Inflammation and repair
CO2. Understand the clinical features of various diseases like Tuberculosis, Leprosy, Syphilis
CO3. Understand the clinical features of Anemia, Leukemia, Bleeding disorders
CO4.Understand the clinical features Circulatory disturbances like Thrombosis, Infarction, Embolism
CO5. Analyze the urine report, blood smear

Department of Optometry

Subject: Basic & Ocular Pharmacology
Code: OPT24023
3 Credits | Semester IV

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the basics of drugs and its different sources as well as pharmaco-dynamics and pharmaco-kinetics.
CO2. Understand the concept & terminologies of Pharmacology and Ocular preparations.
CO3. Understand the advantages and disadvantages of general routes of drug administration and routes of drug administration in Ophthalmology.
CO4. Apply of different pharmaceutical agents in the management of Oculardisease as well as managing Ocular Toxicity.
CO5. Analyze and applying diagnostic and therapeutic drugs in Ophthalmology.

Subject: Medical Psychology
Code: OPT24025
1 Credit | Semester IV

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the concept of Medical Psychology.
CO2. Apply concept of Medical Psychology in clinic.
CO3. Apply concept of learning, personality and Motivation in Clinic
CO4. Understand the concept of Body Image & language.
CO5. Utilize Patient-therapist relation in clinic.
CO6. Analyze the mentality of patient for present illness

Department of Optometry

Subject: Introduction to Quality and Patient safety
Code: OPT24024
2 Credits | Semester IV

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the concept of Quality assurance of different equipment used in ophthalmic department and its management

CO2. Understand the concept of basics of emergency care and life support skills

CO3. Apply concept of biomedical waste management and environment safety.

CO4. Apply concept of Infection and prevention control

CO5. Understand the concept of ocular drainage and other mechanical systems.

Subject: Clinical Optometry III
Code: OPT24026
3 Credits | Semester IV

Course Outcomes: At the end of the course, students will be able to

CO1.Find out the meridian & optical center of ophthalmic lens,

CO2. Neutralization – manual & help of Lensometer

CO3.Identification of lens-spherical, cylindrical & sphero-cylindrical lenses,

CO4.Lens-surfacing & edging, cutting & marking of single vision bifocal progressive

CO5.Frame measurement: The boxing system, the datum system. Comparison of the two systems, Lens position, segment specification,

Department of Optometry

Semester V

Department of Optometry

Subject: Contact Lens I

Code: OPT25027
3 Credits | Semester V

Course Outcomes: At the end of the course, students will be able to

CO1. Understand about contact lens history, introduction, design & relation with structure of eye

CO2. Understand about RGP contact lens material & their property their parameter

CO3. Understand about RGP contact lens manufacturing techniques & fitting of RGP lenses

CO4. Understand and know about care maintenance and do's & don't of RGP contact lens

CO5. Learn about complication and their management of RGP contact Lenses

Subject: Low Vision Care

Code: OPT25028
3 Credits | Semester V

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the basic definition and classification of Low Vision

CO2. Analyze the various causes of Low Vision

CO3. Understand how to do examination of a low vision Patient,

CO4. Apply various optical and non-optical devices for visual rehabilitation of a low vision Patient.

CO5. Understand the legal aspects of Low Vision in India, as well as applying case studies to for visual rehabilitation of a low vision Patient.

Geriatric & Pediatric Optometry
Code: OPT25029
3 Credits | Semester V

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the concept of Ocular anatomy and Physiology.

CO2. Understand the concept of systemic diseases of geriatric and pediatric patients.

CO3. Apply concept of optometric Evaluation procedure.

CO4. Understand the concept of ocular drainage and other mechanical systems.

CO5. Utilize the concept of various optical and primarily medicated intervention and therapeutic procedure

Subject: Binocular Vision 1
Code: OPT25030
3 Credits | Semester V

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the concept of Binocular Single vision.
CO2. Understand the concept of development and function of Binocular vision.
CO3. Apply concept of Optometric Investigation for binocular vision anomalies.
CO4. Understand the anatomy of extra ocular muscles and its actions.
CO5. Utilize the concept of exercised and therapy for the management of binocular vision anomalies

Department of Optometry

Systemic Disease

Code: OPT25031

3 Credits | Semester V

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the basics of systemic Disease having impact on the ocular health.
CO2. Understand the definition, classification, clinical Complications, diagnosis and management of various systemic diseases
CO3. Analyze the Ocular manifestation of some common systemic diseases like DM, HT, etc.
CO4. Understand the pathophysiology of the ocular changes due to underlying systemic disease.
CO5. Apply the knowledge to manage the ocular manifestation of various systemic diseases

Research Methodology & Biostatistics

Code: OPT25032

2 Credits | Semester V

Course Outcomes: At the end of the course, students will be able to

Department of Optometry

CO1-Data collection and statistical application
CO2-Procure knowledge of different research methodologies and appropriate research design to conduct research projects
CO3- Will be trained to interpret the strength of statistical arguments made by researchers
CO4- Weigh statistical and clinical evidence in assessing a scientific hypothesis
CO5- Read a scientific article effectively, review it and utilize the finding as evidence based practice

Department of Optometry

Clinical Optometry 4
Code: OPT25033
3 Credits | Semester V

Course Outcomes: At the end of the course, students will be able to perform

CO1.Measurement of Ocular dimensions

CO2. Pupillary diameter and lid characteristics

CO3. Blink rate and TBUT

CO4.Soft Contact Lens fitting –Aspherical

CO5. Soft Contact Lens fitting – Lathe cut lenses

CO6. Soft Contact Lens over refraction

Department of Optometry

Semester VI

Department of Optometry

Contact Lens 2

Code: OPT26034
3 Credits | Semester VI

Course Outcomes: At the end of the course, students will be able to

CO1- Understand the basics of Contact lens practice

CO2- Practice specialty lenses for pathological conditions

CO3- Identify indications and contraindications

CO4 -Learn about complication and their management of soft contact lenses

CO5- Understand about specialty contact lenses

Binocular Vision 2

Code: OPT26035
3 Credits | Semester VI

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the classification of strabismus

CO2. Understand the concept of recording history in strabismus patients

CO3. Understand the clinical features of convergent & divergent Strabismus

CO4. Understand Strabismus the clinical features of vertical & paralytic

CO5. Understand the procedure of various investigation to rule out the types of strabismus

Department of Optometry

Public Health & Community Optometry

Code: OPT26036
2 Credits | Semester VI

Course Outcomes: At the end of the course, students will be able to

CO1-Community based eye care in India.
CO2-Prevalence of various eye diseases
CO3-Develop Information Education Communication materials on eye and vision care for the benefit of the public
CO4-Organize health education programs in the community
CO5-Vision screening for various eye diseases in the community and for different age group

Practice management

Code: OPT26037
1 Credits | Semester VI

Course Outcomes: At the end of the course, students will be able to

CO1- Gain knowledge on various aspects of private optometric practice from Indian perspective.
CO2- Aware of the laws concerning a business and its consumers
CO3- Develop communication skills and consumer psychology
CO4- Practice work place integrity, gender equality and professional conduct

Department of Optometry

Subject: Occupational Optometry
Code: OPT26038
1 Credits | Semester VI

Course Outcomes: At the end of the course, students will be able to

CO1. Understand the occupational health
CO2. Identify the visual requirements in various jobs.
CO3. Illustrate the effects of Physical, chemical and biological hazards on eye and vision
CO4. Analyze occupational causes of visual and eye problems
CO4. Analyze occupational causes of visual and eye problems
CO5. Prescribe suitable corrective lenses and eye protective wear to the patients
CO6. Formulate visual requirements and standards for different jobs

Subject: Medical law & ethics
Code: OPT26039
1 Credits | Semester VI

Course Outcomes: At the end of the course, students will be able to

CO1- Understand the principles of ethical practice
CO2- Maintain human values
CO3- Work as per code of conduct
CO4- Comprehend how medical laws and ethics work in tandem

Department of Optometry

Subject: Research Project 1

Code: OPT26040
2 Credits | Semester VI

Course Outcomes: At the end of the course, students will be able to

CO1-Data collection and statistical application

CO2-Procure knowledge of different research methodologies and appropriate research design to conduct research projects

CO3- Will be trained to interpret the strength of statistical arguments made by researchers

CO4-To weigh statistical and clinical evidence in assessing a scientific hypothesis
CO5- To read a scientific article effectively, review it and utilize the finding as evidence based practice.

Subject: Clinical Optometry V

Code: OPT26041
3 Credits | Semester VI

Course Outcomes: At the end of the course, students will be able to

CO1. Deals with hand-on session the basic binocular vision evaluation techniques.

CO2. Fitting Cosmetic Contact Lens

CO3. Slit lamp examination of Contact Lens wearers

CO4. Fitting Toric Contact Lens

CO5. Bandage Contact Lens

CO6. SPM & Pachymetry at SN During Clinics

Department of Optometry

Semester VII

Department of Optometry

Subject: Internship-7
Code: OPT27042
4 Credits | Semester VII

Course Outcomes: At the end of the course, students will be able to

CO1- Improvise their clinical skills
CO2 - Learn about professional etiquettes and ethics in a clinical setting.
CO3 – Perform comprehensive eye examination independently
CO4 - Perform diagnostics test and do workup simultaneously

Subject: Research Project 2
Code: OPT27043
4 Credits | Semester VII

Course Outcomes: At the end of the course, students will be able to

CO1 - Write manuscript of the research paper and also check plagiarism

CO2 - Procure knowledge of different research methodologies and appropriate research design to conduct research projects

CO3 - Will be trained to interpret the strength of statistical arguments made by researchers

CO4 - To weigh statistical and clinical evidence in assessing a scientific hypothesis
CO5 - To read a scientific article effectively, review it and utilize the finding as evidence based practice

Department of Optometry

Semester VIII

Department of Optometry

Subject: Internship-8

Code: OPT28044
4 Credits | Semester VIII

Course Outcomes: At the end of the course, students will be able to

CO1- Improvise clinical skills

CO2 - Put into practice the learning about professional etiquettes in a clinical setting

CO3 - Put into practice the learning about ethics in a clinical setting

CO4 – Write about how to manage various points related to a discipline-related disease

Subject: Research Project - 3
Code: OPT28045
4 Credits | Semester VIII

Course Outcomes: At the end of the course, students will be able to

CO1- Perform data collection and statistical application

CO2- Procure knowledge of different research methodologies and appropriate research design to conduct research projects

CO3- Interpret the strength of statistical arguments made by researchers

CO4 - Weigh statistical and clinical evidence in assessing a scientific hypothesis
CO5- Read a scientific article effectively, review it and utilize the finding as evidence based practice