

INTEGRAL UNIVERSITY, LUCKNOW INTEGRAL INSTITUTE OF ALLIED HEALTH SCIENCES & RESEARCH

DEPARTMENT OF PARAMEDICAL SCIENCES

BACHELOR OF OPTOMETRY (B.OPTOM)

SYLLABUS

YEAR/ SEMESTER: III/V



Integral University, Lucknow Department of Paramedical Sciences <u>Study and Evaluation Scheme</u>

Program: BOPT

Semester-V

| S. N. | Course | Course Title | Type of Paper | | | | | Evaluat | ion Schem | e | Sub. Total | Credit | Total |
|----------|--------|---|------------------|---------|-----|----|-----|---------|-----------|-----|------------|--------|---------|
| | code | | orruper | L | Т | Р | СТ | TA | Total | ESE | | Greute | Credits |
| | | | | THEORI | ES | | | | | | | | |
| 1 | BO301 | Contact Lens – I | Core | 3 | 1 | 0 | 40 | 20 | 60 | 40 | 100 | 3:1:0 | 4 |
| 2 | B0302 | Geriatric Optometry & Pediatric Optometry | Core | 3 | 1 | 0 | 40 | 20 | 60 | 40 | 100 | 3:1:0 | 4 |
| 3 | BO303 | Binocular Vision – I | Core | 3 | 1 | 0 | 40 | 20 | 60 | 40 | 100 | 3:1:0 | 4 |
| 4 | B0304 | Systemic Disease & the Eye | Core | 3 | 1 | 0 | 40 | 20 | 60 | 40 | 100 | 3:1:0 | 4 |
| 5 | BO305 | Occupational & Community Optometry | Core | 3 | 1 | 0 | 40 | 20 | 60 | 40 | 100 | 3:1:0 | 4 |
| | | | Ι | PRACTIO | CAL | | | | | | | | |
| 1 | B0306 | Contact Lens –Lab | Core | 0 | 0 | 2 | 40 | 20 | 60 | 40 | 100 | 0:0:1 | 1 |
| 2 | B0307 | Geriatric Optometry & Pediatric Optometry-Lab | Core | 0 | 0 | 2 | 40 | 20 | 60 | 40 | 100 | 0:0:1 | 1 |
| 3 | B0308 | Core | 0 | 0 | 6 | 40 | 20 | 60 | 40 | 100 | 0:0:3 | 3 | |
| | Total | | | | | 10 | 320 | 160 | 480 | 320 | 800 | 25 | 25 |

| S. | Course | | Туре | | United Nation Sustainable | | | | | | |
|----|----------|---|----------|---------------|------------------------------|----------------------|--------------------|---------------------------------|----------------|------------------------|----------------------------|
| N. | code | Course Title | of Paper | Employability | Entrepreneurship | Skill Development | Gender Equality | Environment & Sustainability | Human Value | Professional Ethics | Development Goal (SDGs) |
| | <u> </u> | THEORIES | | | | Development | Equality | Sustainability | Value | Luncs | (3003) |
| 1 | B0301 | Contact Lens – I | Core | \checkmark | \checkmark | \checkmark | \checkmark | | | \checkmark | 3,4 |
| 2 | B0302 | Geriatric Optometry & Pediatric Optometry | Core | \checkmark | \checkmark | \checkmark | \checkmark | | \checkmark | | 3,4 |
| 3 | B0303 | Binocular Vision – I | Core | \checkmark | \checkmark | \checkmark | | | \checkmark | \checkmark | 3,4 |
| 4 | B0304 | Systemic Disease & the Eye | Core | \checkmark | \checkmark | \checkmark | \checkmark | | \checkmark | \checkmark | 3,4 |
| 5 | B0305 | Occupational & Community Optometry | Core | \checkmark | \checkmark | \checkmark | | | \checkmark | | 3,4 |
| | | PRACTICAL | | | | | | | | | |
| 1 | B0306 | Contact Lens –Lab | Core | \checkmark | \checkmark | \checkmark | | | \checkmark | \checkmark | 3,4 |
| 2 | B0307 | Geriatric Optometry & Pediatric Optometry-Lab | Core | \checkmark | \checkmark | | | | | | 3,4 |
| 3 | B0308 | Hospital Posting | Core | \checkmark | \checkmark | \checkmark | | | \checkmark | | 3,4 |
| | | | | | | | | | | | |

L: LectureT: TutorialsP: PracticalCT: Class TestTA: Teacher Assessment ESE: EnAE= Ability enhancement, DSE- Discipline Specific Elective, Sessional Total: Class Test + Teacher AssessmentSubject Total: Ses

TA: Teacher Assessment ESE: End Semester Examination,

Subject Total: Sessional Total + End Semester Examination (ESE)



| Effective from Session: 202 | 1-22 | | | | | | | | | | | |
|-----------------------------|---------------|---|----------------|---|---|---|---|--|--|--|--|--|
| Course Code | BO301 | Title of the Course | CONTACT LENS-I | L | Т | Р | С | | | | | |
| Year | III | Semester | V | 3 | 1 | 0 | 4 | | | | | |
| Pre-Requisite | Nil | Co-requisite | Nil | | | | | | | | | |
| Course Objectives | To enable the | ble the students to have knowledge in both theoretical and practical aspects of Contact Lenses. | | | | | | | | | | |

| | Course Outcomes |
|-----|--|
| CO1 | Understanding about contact lens history, introduction, design & relation with structure of eye. |
| CO2 | Understanding about RGP contact lens material & their property their parameter. |
| CO3 | Understanding about RGP contact lens manufacturing techniques & fitting of RGP lenses. |
| CO4 | Understanding and know about care maintenance and do's & don't of RG P contact lens. |
| CO5 | Learn about complication and their management of RGP contact Lenses. |

| Unit No. | Title of the Unit | Content of Unit | Contact Hrs. | Mapped CO | | | | | | |
|-------------|--|--|-----------------|--------------|--|--|--|--|--|--|
| 1 | INTRODUCTION TO CONTACT LENSES | Review of Anatomy &Physiology of Tear film, cornea, Definition of Contact lens & various Classification, Optics & design of RGP Contact Lenses, Vertex distance calculation. | 8 | CO1 | | | | | | |
| 2 | OPTICS OF CONTACT LENSES | Introduction & types of RGP materials, Properties of various RGP materials- Physiological, Physical, Optical, Manufacturing technique of CL, Indication & contraindication of RGP, Selection of parameters of RGP, Effect of change in parameters of RGP. | 8 | CO2 | | | | | | |
| 3 | CONTACT LENS FITTING | Insertion & removable of RGP, Pre-fitting evaluation, Fitting assessments (dynamic & static), Properties of Types of fit (steep, optimal, flat), Tear lens calculation, Calculation (SAM, FAP) & finalization of RGP, Calculation & finalization of RGP. | 8 | CO3 | | | | | | |
| 4 | CARE AND MAINTENANCE OF RIGID LENSES | Common handling instruction, Do's & Don't of RGP, Care & maintenance of RGPa. cleaningb. disinfecting (one step & two step)c. MPSd. rinsinge. Protein removers | 8 | CO4 | | | | | | |
| 5 | PROPERTIES OF CONTACT LENSES | Types of contact lens deposit, Complications: Inflammation & staining related, Oedema & Hypoxia related, Mechanical & pressure related, Management of Complications. | 8 | CO5 | | | | | | |
| Refere | nce Books: | | | | | | | | | |
| 1. Con | 1. Contact lens primer by Monica Chaudhary, Jaypee Brothers medical publishers (P) Ltd | | | | | | | | | |
| 2. IAC | CLE Contact lens modules. | | | | | | | | | |

3. Contact lens primer by Monica Chaudhary, Jaypee Brothers medical publishers (P) Ltd.

e-Learning Source:

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1. https://www.youtube.com/watch?v=ey7kpRQYaao

2. https://www.youtube.com/watch?v=wlPyYkq3LnY

3. https://www.youtube.com/watch?v=w7skd-AA1PQ

| | | Course Articulation Matrix: (Mapping of COs with POs and PSOs) | | | | | | | | | | | | | | | | |
|------------|-----|--|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| PO- | | | | | | | | | | | | | | | | | | |
| PSO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO4 | PSO5 | PSO6 | PSO7 |
| CO | | | | | | | | | | | | | | | | | | |
| CO1 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | 1 | - | 2 | 2 | 1 | 2 | - | 1 | 3 |
| CO2 | 2 | 3 | 2 | 2 | - | - | - | 1 | 3 | 1 | - | 3 | 2 | 2 | 1 | - | 2 | 3 |
| CO3 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | - | - | 2 | 2 | 1 | 2 | - | 1 | 3 |
| CO4 | 2 | 3 | 1 | 2 | - | - | - | 1 | 3 | - | - | 3 | 2 | 2 | 3 | - | 2 | 3 |
| CO5 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | 1 | - | 2 | 2 | 1 | 2 | - | 1 | 3 |

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

| Course Code | Course Title | | Attributes | | | | | | | | | | | |
|-------------|----------------|---------------|------------------|-------------|----------|----------------|--------------|--------------|-----|--|--|--|--|--|
| | | Employability | Entrepreneurship | Skill | Gender | Environment & | Human | Professional | No. | | | | | |
| BO301 | CONTACT LENS-I | Employability | Enuepreneursnip | Development | Equality | Sustainability | Value | Ethics | | | | | | |
| | | | | | | | \checkmark | | 3,4 | | | | | |



| Effective from Session | : 2021-22 | | | | | | |
|------------------------|-------------|--|---|----------|--------|-------|------|
| Course Code | BO302 | Title of the Course | GERIATRIC OPTOMETRY & PEDIATRIC OPTOMETRY | L | Т | Р | С |
| Year | 3 | 1 | 0 | 4 | | | |
| Pre-Requisite | Nil | Co-requisite | Nil | | | | |
| Course Objectives | ageing, com | mon geriatric systemic atients as well as the de | provide the students with the knowledge of general and ocular phys and ocular diseases, clinical approach of geriatric patients and spectac velopment of the eye and vision, vision assessment and management | le dispe | ensing | g asp | ects |

Course Outcomes

| CO | 1 Understanding the concept of structural and functional changes in elderly eye. |
|----|---|
| CO | 2 Understanding the concept of systemic diseases of geriatric and pediatric patients. |
| CO | 3 Applying concept of optometric Evaluation procedure in children and elderly patients. |
| CO | 4 Understanding the concept of ocular drainage and other mechanical systems in children and elderly patients. |
| CO | 5 Utilizing the concept of various optical and primarily medicated intervention and the therapeutic procedure in children and elderly patients. |

| Unit No. | Title of the Unit | Content of Unit | Contact Hrs. | Mapped CO | | | | |
|-------------|---|---|-----------------|--------------|--|--|--|--|
| 1 | GERIATRIC SYSTEMIC COMPLICATION | Structural and morphological changes of eye in elderly systemic diseases (Hypertension, Atherosclerosis, coronary heart disease, congestive Heart failure, Cerebro-vascular disease, Diabetes (COPD). | 8 | CO1 | | | | |
| 2 | GERIATRIC OCULAR COMPLICATION | Optometric Examination of the Older Adult. Ocular diseases common in old eye, with special reference to cataract, glaucoma, macular disorders, vascular diseases of the eye. | 8 | CO2 | | | | |
| 3 | GERIATRIC DISPENSING | Contact lenses in elderly, Low vision causes, management and rehabilitation in geriatrics Spectacle dispensing in elderly–Considerations of spectacle lenses and frames. | 8 | CO3 | | | | |
| 4 | DEVELOPMENT Assessment of visual acuity Determining binocular status | | | | | | | |
| 5 | PEDIATRIC OCULAR COMPLICATION | Normal appearance, pathology and structural anomalies of Orbit, Eye lids, Lacrimal system, Conjunctiva, Cornea, Sclera, Anterior chamber, Uveal tract, Pupil. Pediatric eye disorders: Cataract, Retinopathy of Prematurity, Retinoblastoma | 8 | CO5 | | | | |
| | rence Books: | | | | | | | |
| | | liam Harvey/Bernard Gilmartin, Butterworth –Heinemann, 2004. | | | | | | |
| | | e–A text book of geriatrics and Gerontology, Viv books, NewDelhi,2005. on Geriatrics, Sakthi Pathipagam, Chennai, 1998 | | | | | | |
| | 3 1 | jan: Primer on geriatric Care A clinical approach to the older patient, Printers Castle, Cochin,2002 | | | | | | |
| | | ar Motility-VON NOORDEN G K Burien Von Noorden's, 2nd Ed., C.V. Mosby Co. St. Louis, 1980 | | | | | | |
| 6. A | ssessing Children's Visio | n. By Susan J Leat, Rosalyn H Shute, Carol AWestall.45 Oxford: Butterworth-Heinemann, 1999. | | | | | | |
| 7. C | linical pediatric optometr | y. LJ Press, BD Moore, Butter worth-Heinemann, 1993. | | | | | | |
| 8. V | S Natarajan: An update | on Geriatrics, Sakthi Pathipagam, Chennai, 1998 | | | | | | |
| 9. C | linical pediatric optometr | y. LJ Press, B D Moore, Butterworth-Heinemann, 1993 | | | | | | |
| | earning Source: | | | | | | | |
| | | n/watch?v=X7zRRpiazwE | | | | | | |
| | 1 7 | n/watch?v=IGW_D7YkRGs | | | | | | |
| 3. | https://www.youtube.cor | n/watch?v=IS4os7obS0s | | | | | | |

| | | Course Articulation Matrix: (Mapping of COs with POs and PSOs) | | | | | | | | | | | | | | | | |
|--------------|-----|--|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| PO-PSO CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| CO1 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | - | - | 2 | 2 | 1 | - | 1 | - | 1 |
| CO2 | 1 | 3 | 1 | 3 | - | - | - | 1 | 3 | - | - | 3 | 3 | 2 | - | 2 | - | 1 |
| CO3 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | - | - | 2 | 3 | 1 | - | 1 | - | 1 |
| CO4 | 1 | 3 | 1 | 2 | - | - | - | 1 | 3 | - | - | 3 | 2 | 1 | - | 1 | - | 1 |
| CO5 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | - | - | 2 | 2 | 1 | - | 1 | - | 1 |

| | | | Attribut | es a sugs | | | | | | | | | | |
|-------------|-----------------------|---------------|------------------|----------------------|--------------------|---------------------------------|----------------|------------------------|-----|--|--|--|--|--|
| Course Code | Course Title | | Attributes | | | | | | | | | | | |
| BO302 | GERIATRIC OPTOMETRY & | Employability | Entrepreneurship | Skill Development | Gender Equality | Environment & Sustainability | Human Value | Professional Ethics | No. | | | | | |
| | PEDIATRIC OPTOMETRY | 1 | 1 | 1 | 1 | | 1 | * | 3,4 | | | | | |



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|---------------|---|--|---------|--------------------------------|---|--|---|---|-----------------------------------|------------------------------------|--|---|--|--------------|------------|-----------------|-----|------------|--|--|
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| Course | e Code | | LT3 | | Title of | | ourse | | | BIN | | R VISIC | DN-I | | L | Т | P | C | | |
| Year | | | II | | Semest | | | | | | | II | | | 3 | 1 | 0 | 4 | | |
| | equisite | | Ni | | Co-req | | | | | | | lil | | | | | | | | |
| Course | e Objec | tives | The ob | jective | of the co | urse is t | o provid | le the stu | idents tl | ne basics | of Binocu | lar Visio | n and its o | clinical co- | relatio | ation. | | | | |
| | | | | | | | | Cou | rse Out | comes | | | | | | | | | | |
| CO1 | Under | Understanding the gross anatomy and physiology related to Extra Ocular Muscles. | | | | | | | | | | | | | | | | | | |
| CO2 | | | | | theories | | | | | and totabe | 105. | | | | | | | | | |
| CO3 | | | | | | | | | | on and St | ereopsis. | | | | | | | | | |
| CO4 | | | | | of Ocul | | | | | | | | | | | | | | | |
| CO5 | Analyzing the relation between Binocular Single Vision and Various law of Ocular motility. | | | | | | | | | | | | | | | | | | | |
| TT • 4 | | | | | | | | | | | | | | | | a | 2.6 | | | |
| Unit No. | Title | e of the | e Unit | | Content of Unit | | | | | | | | | | | Contact Hrs. | | pped CO | | |
| 1 | BI | DDUCI NOCUI VISIO | | F value riva Stea The | ue, Grad alry Hor reopsis a eories of | les of B opter, P ind mon Binocul | SV, SM hysiolog ocular c ar visior | IP and C gical Di lues sign 1. | Dyclopea plopia a nificance | an Eye C and Supp e, Ego cer | orrespond ression, S ntric locat | lence, Fu Stereopsis tion, clinio | sion, Dip , Panum [*] cal applica | | nal SV. | 8 | С | 01 | | |
| 2 | EXTRA OCULAR Anatomy of Extra Ocular Muscles. Recti and Oblique's, LPS, Innervations & Blood Supply, Physiology of Ocular movements. Center of rotation, Axes of Fick. Action of individual muscle. Laws of ocular motility Sherrington' slaw, Hering' slaw, Uniocular & Binocular movements -fixation, saccadic& pursuits. Version & Vergence. Fixation & field of fixation. Near Vision | | | | | | | | | ual lar | 8 | С | 02 | | | | | | | |
| 3 | ACCO | OMMODATION Near Vision, Accommodation: Definition and Mechanism, Types of Accommodation Anomalies of Accommodation-Etiology and Management Method of measurement of NPA | | | | | | | | | | | 8 | С | 03 | | | | | |
| 4 | CON | VERG | ENCE | Me Typ | | neasure compone | ment of ents of C | NPC Converge | ence-To | nic, Acco | | ve, Fusior | nal & Pro | ximal | | 8 | С | 04 | | |
| 5 | | SENSO APTAT | | Bli Abi Ecc | opressior nd spot S normal F centric Fi iblyopia- | Syndrom Retinal C ixation | e Correspo | ndence | | gation and | manager | nent | | | | 8 | С | 05 | | |
| | nce Bo | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | rian von | Norden's | , 2 nd Ed., | C.V. Mos | by Co.St. | Louis,198 | 0. | | | | | |
| | eory and | | | | | | | | | | | | | | | | | | | |
| | edition | | | ested b | ooks are | recom | nended | | | | | | | | | | | | | |
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| | | | | | Cour | se Arti | culatio | n Matı | ix: (M | apping | of COs v | vith PO | s and PS | SOs) | | | | | | |
| PO-PSO CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO: | 3 PSC | 4 F | PSO5 | | |
| C01 | 1 | 3 | 2 | 2 | - | - | - | 1 | 2 | 1 | - | 2 | 2 | 1 | - | 1 | | - | | |
| CO2 | 1 | 3 | 1 | 3 | _ | - | _ | 2 | 3 | _ | - | 3 | 3 | 2 | - | 2 | | - | | |
| CO2 | 1 | 3 | 1 | 2 | _ | - | _ | 1 | 2 | 2 | - | 2 | 3 | 1 | - | 1 | | - | | |
| CO4 | 1 | 3 | 1 | 2 | _ | - | _ | 1 | 3 | - | - | 3 | 2 | 1 | - | 1 | | - | | |
| <u>CO</u> | | 2 | 1 | 2 | | | | 1 | 2 | 1 | | 2 | 2 | - | | 1 | | | | |

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| Course Code | Course Title | | | Att | ributes | | | | SDGs |
|--------------------|--------------------|---------------|----------------------|--------------------------|------------------------|------------------------------------|--------------------|------------------------|------|
| LT303 | BINOCULAR VISION-I | Employability | Entrepreneursh ip | Skill Developme nt | Gender Equalit y | Environment & Sustainability | Huma n Value | Professional Ethics | No. |
| | | | | \checkmark | | | | | 3,4 |



| Effective from Session | tive from Session: 2021-22 | | | | | | | | | | | | |
|------------------------|----------------------------|--|----------------------------|---|---|---|---|--|--|--|--|--|--|
| Course Code | BO304 | Title of the Course | SYSTEMIC DISEASE & THE EYE | L | Т | Р | С | | | | | | |
| Year | III | Semester | V | 3 | 1 | 0 | 4 | | | | | | |
| Pre-Requisite | Nil | Nil Co-requisite Nil | | | | | | | | | | | |
| Course Objectives | | This course deals with definition, classification, clinical diagnosis, complications and management of various systemic diseases. In indicated cases ocular manifestations also will be discussed. | | | | | | | | | | | |

| | Course Outcomes |
|-----|--|
| CO1 | Understanding the basics of systemic Disease having impact on the ocular health. |
| CO2 | Understanding the basics of various systemic Diseases with their clinical features and management. |
| CO3 | Analyzing the Ocular manifestation of some common systemic diseases like DMHT, etc. |
| CO4 | Understanding the pathophysiology of the changes due to ocular underlying systemic disease. |
| CO5 | Applying the knowledge to manage the ocular manifestation of various systemic diseases. |

| Unit No. | Title of the Unit | Content of Unit | Contact Hrs. | Mapped CO |
|-------------|---|---|-----------------|--------------|
| 1 | HYPERTENSION & DIABETES | Hypertension: Definition, classification, Epidemiology, Clinical features, clinical examination & management. Hypertensive retinopathy & other Ocular manifestation of Hypertension. Diabetes Mellitus: Definition, Classification, clinical features, Diagnosis & Management. Diabetic Retinopathy & other Ocular manifestation of Diabetes Mellitus. | 8 | CO1 |
| 2 | THYROID, CANCER & CONNECTIVE TISSUE DISORDER | Thyroid Disease: Physiology, testing for thyroid disease, Hyperthyroidism, Hypothyroidism, Grave's Ophthalmopathy & its other Ocular manifestation. Cancer: Incidence, Etiology, classification, tumor & its types, Grading & staging of cancer, cancer Therapy. Ophthalmologic considerations. Connective Tissue Disease- Rheumatic arthritis, Scleroderma, Sjogren's syndrome, Bechet's Disease, Eye and connective tissue disease. | 8 | CO2 |
| 3 | AIDS & SYPHILIS | HIV-AIDS- Definition, clinical features, Diagnosis, Prevention & Management. Ocular manifestation of AIDS. Syphilis-Definition, clinical features, Diagnosis &Management. Ocular manifestation of Syphilis. | 8 | CO3 |
| 4 | TUBERCULOSIS, MALARIA & LEPROSY | Tuberculosis-A etiology, pathology, clinical features, pulmonary tuberculosis, diagnosis & management. Ocular manifestation of Tuberculosis. Malaria A etiology, pathology, clinical features & management. Ocular manifestation of Malaria. Leprosy A etiology, pathology, clinical features &management. Ocular manifestation of Leprosy. | 8 | CO4 |
| 5 | TOXOPLASMOSIS & VITAMIN A DEFICIENT | Toxoplasmosis: A etiology, pathology, clinical features &Its Ocular Manifestation. Vitamin A Deficiency : Xerophthalmia & It's WHO classification. | 8 | CO5 |
| | nce Books: | | | |
| | | boon, N R Coledge, J A A Hunter: Davidson's Principles and Practice of Medicine, Ed. John Macle | od, 19th Ec | ł., |
| | BS/Churchill Living stone. | | | |
| | | ggested books are recommended | | |
| ÷ | temic diseases and the Eye arning Source: | e dy jack j Kanski. | | |
| | tps://www.youtube.com/w | atch?v=76s5- DocoY | | |
| | tps://www.youtube.com/w | | | |
| 2. III | ups.//www.youtube.com/w | | | |

3. https://www.youtube.com/watch?v=TMQ9rq32DFY

| | | Course Articulation Matrix: (Mapping of COs with POs and PSOs) | | | | | | | | | | | | | | | |
|--------------|-----|--|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| PO-PSO CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 |
| C01 | 1 | 3 | 2 | 2 | - | - | - | 1 | 2 | - | - | 2 | 3 | 1 | 2 | 3 | - |
| CO2 | 1 | 3 | 1 | 3 | - | - | - | 2 | 3 | - | - | 3 | 3 | - | 1 | 2 | - |
| CO3 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | - | - | 2 | 2 | 2 | 1 | 2 | 2 |
| CO4 | 1 | 3 | 1 | 2 | - | - | - | 1 | 3 | 1 | - | 3 | 2 | 3 | 1 | 3 | 2 |
| CO5 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | 2 | - | 2 | 3 | 1 | 2 | 2 | 2 |

| Course Code | Course Title | | Attributes | | | | | | | | | |
|-------------|-------------------------------|---------------|------------------|----------------------|--------------------|---------------------------------|----------------|------------------------|-----|--|--|--|
| BO304 | SYSTEMIC DISEASE & THE EYE | Employability | Entrepreneurship | Skill Development | Gender Equality | Environment & Sustainability | Human Value | Professional Ethics | No. | | | |
| | | 1 | 4 | 1 | √ | | 4 | 1 | 3,4 | | | |



| Effective from Session | ffective from Session: 2021-22 | | | | | | | | | | | | |
|------------------------|--------------------------------|----------------------------|--|-------|----------|---------|------|--|--|--|--|--|--|
| Course Code | BO305 | Title of the Course | OCCUPATIONAL & COMMUNITY OPTOMETRY | L | Т | Р | С | | | | | | |
| Year | III | Semester | V | 3 | 1 | 0 | 4 | | | | | | |
| Pre-Requisite | Nil | Co-requisite | Nil | | | | | | | | | | |
| Course Objectives | The objective | of this course is to provi | de knowledge of general aspects of occupational health, Visual | demar | nd in va | rious j | obs, | | | | | | |
| Course Objectives | | | | | | | | | | | | | |

| | Course Outcomes |
|-----|--|
| CO1 | Understanding the role of various national and international bodies in guiding and maintaining standards of Visual Hygiene and framing various Acts and rules. |
| CO2 | Understanding the effects of various occupational hazards on the eye and applying Optometric expertise to provide protective measures and eye gears. |
| CO3 | Analyzing and applying various eye screening methods for various task job sand providing necessary eye protections and guidelines to avoid eyes train and fatigue. |
| CO4 | Understanding the role of optometrist in public health and in various communities and school eye screening. |
| CO5 | Having acknowledged about various eye program and screening procedures and analyzing the importance of teleophthalmology in the field of optometry. |

| Unit No. | Title of the Unit | Content of Unit | Contact Hrs. | Mapped CO |
|-------------|--|--|-----------------|--------------|
| 1 | OCCUPATIONAL HEALTH | Introduction to Occupational health, hygiene and safety, international bodies like ILO, WHO, Factories Act, WCA, ESI Act. | 8 | CO1 |
| 2 | COMMUNITY STANDARDS | Electromagnetic Radiation and its effects on Eye. Occupational hazards and preventive/protective methods. Industrial Vision Screening – Modified clinical method and Industrial Vision test, Vision Standards– Railways, Roadways, and Airlines. Visual Display Units | 8 | CO2 |
| 3 | COMMUNITY EYE CARE PROGRAMS | Eye in primary health care, Community Eye Care Programs, Community based rehabilitation programs. Nutritional Blindness with reference to Vitamin A deficiency, Vision 2020: The Right to Sight, Screening for eye diseases, National and International health agencies, NPCB. | 8 | CO3 |
| 4 | OPTOMETRIST'S ROLE IN EYE HEALTH PROGRAMMES | Role of an optometrist in Public Health, Organization and Management of Eye Care Programs – Service Delivery models, Eye Health man power and planning. | 8 | CO4 |
| 5 | TELE OPTOMETRY | Optometrist's role in school eye health programs, Basics of Tele Optometry and its application in Public Health, Information. Education and Communication for Eye Care programs. | 8 | CO5 |
| | nce Books: | | | |
| | | boon, N R Coledge, J A A Hunter: Davidson's Principles and Practice of Medicine, Ed. John Macle | od, 19th Ec | l., |
| | BS/Churchill Livingstone. | gested books are recommended | | |
| | • | al Optometry by Gordon Carson | | |
| | arning Source: | | | |
| 1. ht | tps://www.youtube.com/w | atch?v=DlpZBSjkJuM | | |
| 2. ht | tps://www.youtube.com/w | atch?v=GX7vACR3nDU | | |

https://www.youtube.com/watch?v=GX?vACR3nDU
 https://www.youtube.com/watch?v=jwwOXILYQ4Q

| | | Course Articulation Matrix: (Mapping of COs with POs and PSOs) | | | | | | | | | | | | | | | |
|--------|-----|--|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| PO-PSO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 |
| СО | 101 | 102 | 105 | 104 | 105 | 100 | 107 | 100 | 10) | 1010 | 1011 | 1012 | 1501 | 1502 | 1505 | 1504 | 1505 |
| CO1 | 1 | 3 | 2 | 2 | - | - | - | 1 | 2 | - | - | 2 | 3 | 1 | 2 | 3 | - |
| CO2 | 1 | 3 | 1 | 3 | - | - | - | 2 | 3 | - | - | 3 | 3 | - | 1 | 2 | - |
| CO3 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | - | - | 2 | 2 | 2 | 1 | 2 | 2 |
| CO4 | 1 | 3 | 1 | 2 | - | - | - | 1 | 3 | 1 | - | 3 | 2 | 3 | 1 | 3 | 2 |
| CO5 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | 2 | - | 2 | 3 | 1 | 2 | 2 | 2 |

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

| | | | Attribu | tes & SDGs | | | | | | | | | |
|-------------|----------------|---------------|------------------|-------------|----------|----------------|-------|--------------|-----|--|--|--|--|
| Course Code | Course Title | | Attributes | | | | | | | | | | |
| | OCCUPATIONAL & | Employability | Entrepreneurship | Skill | Gender | Environment & | Human | Professional | No. | | | | |
| BO305 | COMMUNITY | Employability | Entrepreneursnip | Development | Equality | Sustainability | Value | Ethics | | | | | |
| | OPTOMETRY | 4 | 4 | 4 | 4 | | 1 | 4 | 3,4 | | | | |



| | | | megrurer | inversity, Eucknow | | | | | | | | |
|----------|--|-----------------|----------------------------------|---|---|---|---|---|--|--|--|--|
| Effectiv | e from Session | : 2021-22 | | | | | | | | | | |
| Course | Code | LT306 | Title of the Course | CONTACT LENS- LAB | L | Т | Р | С | | | | |
| Year | | III | Semester | V | 0 | 0 | 2 | 1 | | | | |
| Pre-Rec | Pre-Requisite Nil Co-requisite Nil | | | | | | | | | | | |
| Course | Course Objectives To enable the students to have knowledge in both theoretical and practical aspects of Contact Lenses. | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | ourse completion, learners will develop following attributes: | | | | | | | | |
| CO1 | Understanding | g about contact | lens history, introduction, des | sign & relation with structure of eye. | | | | | | | | |
| CO2 | Understandin | g about RGP co | ontact lens material & their pro | operty their parameter. | | | | | | | | |
| CO3 | | | | | | | | | | | | |
| CO4 | Understanding and know about care maintenance and do's & don't of RG P contact lens. | | | | | | | | | | | |
| CO5 | Learn about c | omplication and | d their management of RGP co | ontact Lenses. | | | | | | | | |
| l | Evant about complication and then management of Kor contact Lenses. | | | | | | | | | | | |

| Unit No. | Title of the Unit | Content of Unit | Contact Hrs. | Mapped CO | | | | | | | |
|---|----------------------------|--|-----------------|--------------|--|--|--|--|--|--|--|
| 1 | PREFITTING EVALUATION | Measurement of Ocular dimensions Pupillary diameter and lid characteristics Blink rate and TBUT Schirmer's test, Slit lamp examination of tear layer Keratometry Placido's disc | 6 | CO1 | | | | | | | |
| 2 | SOFT CL | 7. Soft Contact Lens fitting –Aspherical 8. Soft Contact Lens fitting – Lathe cut lens 9. Soft Contact Lens over refraction | 6 | CO2 | | | | | | | |
| 3 | CARE MAINTENANCE | 10.Lens insertion and removal 11.Lens handling and cleaning 12.Examination of old soft Lens | 6 | CO3 | | | | | | | |
| 4 | RGP CL | 13.RGP Lens fitting 14.RGP Lens Fit Assessment and fluorescein pattern 15.Special RGP fitting (Aphakia, pseudo phakia &Keratoconus) 16.RGP over refraction and Lens flexure 17.Examination of old RGP Lens 18.RGP Lens parameters | 6 | CO4 | | | | | | | |
| 5 | CONTACT LENS PROPERTIES | 19. Slit lamp examination of Contact Lens wearers 20. Measurement of ocular dimensions | 6 | CO5 | | | | | | | |
| | nce Books: | | | | | | | | | | |
| | | Chaudhary, Jaypee Brothers medical publishers (P) Ltd | | | | | | | | | |
| | CLE Contact lens modules. | Chaudhany Jaynee Brothers medical publishers (D) 1td | | | | | | | | | |
| 3. Contact lens primer by Monica Chaudhary, Jaypee Brothers medical publishers (P) Ltd. e-Learning Source: | | | | | | | | | | | |
| | tps://www.youtube.com/wa | tch?v=ev7kpROYaao | | | | | | | | | |
| https://www.youtube.com/watch?v=wlPyYkq3LnY | | | | | | | | | | | |
| 3. htt | tps://www.youtube.com/wa | tch?v=w7skd-AA1PQ | | | | | | | | | |

| | | Course Articulation Matrix: (Mapping of COs with POs and PSOs) | | | | | | | | | | | | | | | |
|--------------|-------------|--|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| PO-PSO CO | P O1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 |
| CO1 | 1 | 3 | 2 | 2 | - | - | - | 1 | 2 | 1 | - | 2 | 2 | 1 | - | 1 | - |
| CO2 | 1 | 3 | 1 | 3 | - | - | - | 2 | 3 | - | - | 3 | 3 | 2 | - | 2 | - |
| CO3 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | 2 | - | 2 | 3 | 1 | - | 1 | - |
| CO4 | 1 | 3 | 1 | 2 | - | - | - | 1 | 3 | - | - | 3 | 2 | 1 | - | 1 | - |
| CO5 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | 1 | - | 2 | 2 | 1 | - | 1 | - |

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

| Course Code | Course Title | | | Att | ributes | | | | SDGs |
|-------------|-------------------|---------------|----------------------|--------------------------|------------------------|------------------------------------|--------------------|------------------------|------|
| BO306 | CONTACT LENS- LAB | Employability | Entrepreneursh ip | Skill Developme nt | Gender Equalit y | Environment & Sustainability | Huma n Value | Professional Ethics | No. |
| | | | | | | | | | 3,4 |



| Effective from Session: | 2021-22 | | | | | | |
|-------------------------|--------------|--|---|--------|---------|---------|------|
| Course Code | BO307 | Title of the Course | GERIATRIC & PEDIATRIC OPTOMETRY- LAB | L | Т | Р | С |
| Year | III | Semester | V | 0 | 0 | 2 | 1 |
| Pre-Requisite | Nil | Co-requisite | Nil | | | | |
| Course Objectives | ageing, comm | on geriatric systemic an ing patients as well as the | de the students with the knowledge of general and ocular p ad ocular diseases, clinical approach of geriatric patients a ne development of the eye and vision, vision assessment an | nd spe | ectacle | dispens | sing |

| <u>CO1</u> | Understanding the concent of | Course Outcomes structural and functional changes in elderly eye. | | | | | | | | | | | | |
|------------|---|---|------|--|--|--|--|--|--|--|--|--|--|--|
| CO1 CO2 | | systemic diseases of geriatric and pediatric patients. | | | | | | | | | | | | |
| CO2 CO3 | | ic Evaluation procedure in children and elderly patients. | | | | | | | | | | | | |
| CO4 | | | | | | | | | | | | | | |
| CO5 | | | | | | | | | | | | | | |
| Unit | Title of the Linit Content of Linit Contact Manned CO | | | | | | | | | | | | | |
| No. | · Hrs. | | | | | | | | | | | | | |
| 1. | 1.Clinical Observation1.Deals with hand-on session the different geriatric and pediatric evaluation techniques.30CO1,CO2,C O3,CO4,CO5 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | <u> </u> | vey/Bernard Gilmartin, Butterworth –Heinemann, 2004. | | | | | | | | | | | | |
| | | book of geriatrics and Gerontology, Viv books, NewDelhi,2005. | | | | | | | | | | | | |
| | | rics, Sakthi Pathipagam, Chennai, 1998 | | | | | | | | | | | | |
| | | ner on geriatric Care A clinical approach to the older patient, Printers Castle, Cochin | | | | | | | | | | | | |
| | | ity-VON NOORDEN G K Burien Von Noorden's, 2nd Ed., C.V. Mosby Co. St. Lou | | | | | | | | | | | | |
| 6. A | ssessing Children's Vision. By Su | usan J Leat, Rosalyn H Shute, Carol AWestall.45 Oxford: Butterworth-Heinemann, l | 999. | | | | | | | | | | | |
| 7. C | linical pediatric optometry. LJ Pre | ess, BD Moore, Butter worth-Heinemann, 1993. | | | | | | | | | | | | |
| 8. V | S Natarajan: An update on Geria | trics, Sakthi Pathipagam, Chennai, 1998 | | | | | | | | | | | | |
| 9. C | linical pediatric optometry. LJ Pre | ess, B D Moore, Butterworth-Heinemann, 1993 | | | | | | | | | | | | |
| e-Lea | arning Source: | | | | | | | | | | | | | |
| 1. h | | | | | | | | | | | | | | |
| 2. h | | | | | | | | | | | | | | |
| 3. h | ttps://www.youtube.com/watch?w | /=IS4os7obS0s | | | | | | | | | | | | |

| PO-PSO _ | | Course Articulation Matrix: (Mapping of COs with POs and PSOs) | | | | | | | | | | | | | | | |
|----------|-----|--|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 10-150 D | 201 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 |
| CO | 01 | r02 | 103 | r04 | 105 | 100 | 107 | 100 | F09 | F010 | FOII | F012 | 1301 | 1302 | 1303 | 1304 | 1305 |
| CO1 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | 1 | - | 2 | - | 1 | 2 | - | 3 |
| CO2 | 2 | 3 | 2 | 2 | - | - | - | 1 | 3 | 1 | - | 3 | - | 2 | 1 | I | 2 |
| CO3 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | - | - | 2 | - | 1 | 2 | - | 3 |
| CO4 | 2 | 3 | 1 | 2 | - | - | - | 1 | 3 | - | - | 3 | - | 2 | 3 | - | 3 |
| CO5 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | 1 | - | 2 | - | 1 | 2 | - | 3 |

| | | | Auribu | les & SDGs | | | | | |
|--------------------|---|---------------|------------------|----------------------|--------------------|---------------------------------|----------------|------------------------|------|
| Course Code | Course Title | | | At | tributes | | | | SDGs |
| BO307 | GERIATRIC & PEDIATRIC OPTOMETRY- LAB | Employability | Entrepreneurship | Skill Development | Gender Equality | Environment & Sustainability | Human Value | Professional Ethics | No. |
| | OF TOWETRT- EAD | 1 | 1 | 1 | 1 | | 1 | 1 | 3,4 |



| Effective from Session: 2 | 2021-22 | | | | | | |
|---------------------------|---------------------------|---------------------------|--|---------|----------|---------|-----|
| Course Code | BO308 | Title of the Course | HOSPITAL POSTING LAB | L | Т | Р | C |
| Year | III | Semester | V | 0 | 0 | 6 | 3 |
| Pre-Requisite | Nil | Co-requisite | Nil | | | | |
| Course Objectives | The objective department. | of the hospital posting i | s to learn about patient handling, radiation and optometri | c proce | edures o | lone in | the |

| CO2 Understand | he knowledge to manage the ocular manifestation of various systemic diseases. ling the concept of systemic diseases of geriatric and pediatric patients. |
|------------------|---|
| | ling the concept of systemic diseases of geriatric and pediatric patients. |
| | |
| CO3 Applying co | oncept of optometric Evaluation procedure in children and elderly patients. |
| CO4 Understand | ling the concept of ocular drainage and other mechanical systems in children and elderly patients. |
| CO5 Utilizing th | ne concept of various optical and primarily medicated intervention and the therapeutic procedure in children and elderly patients. |

| Unit No. | Title of the Unit | Content of Unit | Contact Hrs. | Mapped CO |
|-------------|---------------------------------|--|-----------------|-------------------------------------|
| 1 | CLINICAL POSTING | The course provides students the opportunity to continue to develop confidence and increased skill in diagnosis and treatment delivery. Students will demonstrate competence in basic, intermediate and advance procedure in those areas. Students will participate in advance and specialized diagnostic and management procedure. Students will get practical experience of the knowledge acquired from geriatric and pediatric optometry courses. Hands-on experience under supervision will be provided in various outreach programs namely, school vision screening, glaucoma and diabetic retinopathy screening etc., Students also get hand-on practical sessions on the following courses namely, contact lens, low vision care, geriatric optometry and pediatric optometry. | 60 | CO1, CO2, CO3, CO4, CO5 |
| | | N R Coledge, J A A Hunter: Davidson's Principles and Practice of Medicine, Ed. John Macle | od, 19th Ec | 1., |
| | BS/Churchill Living stone. (PPM | 1),2002. an LLeat Rosalum H Shute, Carol AWestall 45 Oxford: Butterworth-Heinemann 1999 | | |

Assessing Children's Vision. By Susan J Leat, Rosalyn H Shute, Carol AWestall.45 Oxford: Butterworth-Heinemann, 1999.

3. Theory and Practice of Squint and Orthoptics by A.K. Khurana.

e-Learning Source: 1.

https://www.youtube.com/watch?v=X7zRRpiazwE 2.

https://www.youtube.com/watch?v=lGW_D7YkRGs https://www.youtube.com/watch?v=IS4os7obS0s 3.

| | | Course Articulation Matrix: (Mapping of COs with POs and PSOs) | | | | | | | | | | | | | | | |
|--------------|-----|--|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| PO-PSO CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 |
| CO1 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | 1 | - | 2 | - | 1 | 2 | - | 3 |
| CO2 | 2 | 3 | 2 | 2 | - | - | - | 1 | 3 | 1 | - | 3 | - | 2 | 1 | - | 2 |
| CO3 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | - | - | 2 | - | 1 | 2 | - | 3 |
| CO4 | 2 | 3 | 1 | 2 | - | - | - | 1 | 3 | - | - | 3 | - | 2 | 3 | - | 3 |
| CO5 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | 1 | - | 2 | - | 1 | 2 | - | 3 |

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

| Course Code | Course Title | Attributes | | | | | | | | |
|-------------|-------------------------|---------------|------------------|----------------------|--------------------|---------------------------------|----------------|------------------------|-----|--|
| BO308 | HOSPITAL POSTING LAB | Employability | Entrepreneurship | Skill Development | Gender Equality | Environment & Sustainability | Human Value | Professional Ethics | No. | |
| | | 1 | √ | √ | √ | | 1 | \checkmark | 3,4 | |



INTEGRAL UNIVERSITY, LUCKNOW INTEGRAL INSTITUTE OF ALLIED HEALTH SCIENCES & RESEARCH

DEPARTMENT OF PARAMEDICAL SCIENCES

BACHELOR OF OPTOMETRY (B.OPTOM)

SYLLABUS

YEAR/ SEMESTER: III/VI



Integral University, Lucknow Department of Paramedical Sciences <u>Study and Evaluation Scheme</u>

Program: BOPT

Semester-VI

| S. | Course | | Туре | - | Period P | | | Evalu | ation Sche | me | | | Total |
|----|--------|--------------------------------------|----------|-------|--------------|---------|-----|--|------------|-----|------------|--------|---------|
| N. | code | | of Paper | L | /week/s T | em P | СТ | ТА | Total | ESE | Sub. Total | Credit | Credits |
| | | | | | THE | ORIES | | <u>. </u> | | | <u> </u> | | |
| 1 | BO309 | Contact Lens –II | Core | 3 | 1 | 0 | 40 | 20 | 60 | 40 | 100 | 31:0 | 4 |
| 2 | B0310 | Binocular Vision –II | Core | 3 | 1 | 0 | 40 | 20 | 60 | 40 | 100 | 3:1:0 | 4 |
| 3 | B0311 | Practice Management | Core | 3 | 1 | 0 | 40 | 20 | 60 | 40 | 100 | 3:1:0 | 4 |
| 4 | B0312 | Research Methodology & Biostatistics | Core | 2 | 1 | 0 | 40 | 20 | 60 | 40 | 100 | 2:1:0 | 3 |
| | • | | | | PRAC | TICAL | | | | | | | |
| 1 | B0313 | Contact Lens –II Lab | Core | 0 | 0 | 2 | 40 | 20 | 60 | 40 | 100 | 0:0:1 | 1 |
| 2 | B0314 | Binocular Vision – II Lab | Core | 0 | 0 | 2 | 40 | 20 | 60 | 40 | 100 | 0:0:1 | 1 |
| 3 | B0315 | Research Project Proposal Lab | Core | 0 | 0 | 2 | 40 | 20 | 60 | 40 | 100 | 0:0:1 | 1 |
| 4 | B0316 | Hospital Posting | Core | 0 | 0 | 8 | 40 | 20 | 60 | 40 | 100 | 0:0:4 | 4 |
| | | Total | | 11 | 04 | 14 | 320 | 160 | 480 | 320 | 800 | 22 | 22 |

| S. | Course | | Туре | | | At | tributes | | | | United Nation Sustainable |
|-------|-------------------------------------|--------------------------------------|----------|---------------|------------------|----------------------|--------------------|---------------------------------|----------------|------------------------|------------------------------|
| N. | code | Course Title | of Paper | Employability | Entrepreneurship | Skill Development | Gender Equality | Environment & Sustainability | Human Value | Professional Ethics | Development Goal (SDGs) |
| THE | ORIES | | | | | | | | | | |
| 1 | B0309 | Contact Lens – II | Core | \checkmark | \checkmark | | | | \checkmark | \checkmark | 3,4 |
| 2 | B0310 | Binocular Vision – II | Core | \checkmark | \checkmark | | | | \checkmark | \checkmark | 3,4 |
| 3 | B0311 | Practice Management | Core | \checkmark | \checkmark | | | | \checkmark | \checkmark | 3,4 |
| 4 | B0312 | Research Methodology & Biostatistics | Core | \checkmark | \checkmark | | | | \checkmark | \checkmark | 3,4 |
| PRACT | ГICAL | | | | | | | | | | |
| 1 | B0313 | Contact Lens II–Lab | Core | \checkmark | \checkmark | | | | \checkmark | \checkmark | 3,4 |
| 2 | B0314 | Binocular Vision – II Lab | Core | \checkmark | \checkmark | | | | \checkmark | \checkmark | 3,4 |
| 3 | BO315 Research Project Proposal-Lab | | Core | \checkmark | | | | | \checkmark | | 3,4 |
| 4 | 4 B0316 Hospital Posting Core | | | | | | | | \checkmark | | 3,4 |
| | | | | | | | | | | | |

L: Lecture T: Tutorials P: Practical CT: Class Test TA: Teacher Assessment E= Ability enhancement, DSE- Discipline Specific Elective, Sessional Total: Class Test + Teacher Assessment Subject Total: Sessional Total + End Semester Examination (ESE)



| Effective from Session | n: 2021-22 | | | | | | |
|------------------------|---------------------|-------------------------|---|---|---|---|---|
| Course Code | BO309 | Title of the Course | CONTACT LENS- II | L | Т | Р | С |
| Year | III | Semester | VI | 3 | 1 | 0 | 4 |
| Pre-Requisite | Nil | Co-requisite | Nil | | | | |
| Course Objectives | To enable the stude | nts to have knowledge i | n both theoretical and practical aspects of Contact Lenses. | | | | |

| | Course Outcomes |
|-----|---|
| CO1 | Understanding about soft contact lens material & their property, selection of parameter |
| CO2 | Understanding about soft contact lens fitting characteristics and evaluation of fitting |
| CO3 | Understanding about toric soft contact lens, stabilization techniques and application |
| CO4 | Learn about complication and their management of soft contact lenses |
| CO5 | Understanding about specialty contact lenses |

| Unit No. | Title of the Unit | Content of Unit | Contact Hrs. | Mapped CO |
|-------------|---|---|-----------------|--------------|
| | INTRODUCTION | Introduction to soft Contact lenses, Advantages of SCL, Comparison of RGP vs. SCL, | 0 | 994 |
| 1 | TO CONTACT LENSES | Selection of Parameters, Properties of various SCL materials. | 8 | CO1 |
| 2 | FITTING OF CONTACT LENSES | Pre fitting evaluation of SCL, Fitting philosophies for SCL, Characteristics of types of fit. (Steep, flat, optimal), Fit assessment in Soft Contact Lenses (steep, flat, optimal), After care & follow up (Do's and Don'ts), Market availability of SCL. | 8 | CO2 |
| 3 | CARE AND MAINTENANCE OF SOFT LENS | Different type of stabilization technique & its characteristics, Fitting assessment of Toric SCL, MPS and its major components, Market availability of Toric lens. | 8 | CO3 |
| 4 | COMPLICATION OF SCL | Complications of SCL (etiology, signs, symptoms and managements), Therapeutic CL (definition, Applications, fitting, after care), X-Chrome lens. | 8 | CO4 |
| 5 | SPECIALTY CONTACT LENS | Specialty contact lens, Pediatric Contact Lenses, Multifocal SCL, Ortho-k lens, Rose K lens, Scleral & semi-scleral. | 8 | CO5 |
| Referen | nce Books: | | | |
| | · · · | ca Chaudhary, Jaypee Brothers medical publishers (P) Ltd | | |
| | E Contact lens modules | | | |
| 3. Conta | act lens primer by Monic | a Chaudhary, Jaypee Brothers medical publishers (P) Ltd. | | |
| e-Lea | rning Source: | | | |

1. https://www.youtube.com/watch?v=ey7kpRQYaao

2. https://www.youtube.com/watch?v=wlPyYkq3LnY

3. https://www.youtube.com/watch?v=w7skd-AA1PQ

| | | Course Articulation Matrix: (Mapping of COs with POs and PSOs) | | | | | | | | | | | | | | | |
|------------|-----|--|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| PO- PSO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 |
| CO | | | | | | | | | | | | | | | | | |
| CO1 | 1 | 3 | 1 | 2 | - | - | - | 1 | 1 | 1 | - | 3 | 2 | 2 | 1 | 1 | 1 |
| CO2 | 1 | 3 | 2 | 2 | - | - | - | 1 | 1 | 1 | - | 3 | 2 | 2 | 1 | 1 | 1 |
| CO3 | 1 | 3 | 1 | 2 | - | - | - | 1 | 1 | 1 | - | 3 | 2 | 1 | 1 | 1 | 1 |
| CO4 | 2 | 3 | 1 | 2 | - | - | - | 1 | 1 | 1 | - | 3 | 2 | 2 | 1 | 1 | 1 |
| CO5 | 1 | 3 | 1 | 2 | - | - | - | 1 | 1 | 1 | - | 3 | 2 | 1 | 1 | 1 | 1 |

| | | Attibut | | | | | | | | | | | |
|------------------|----------------------------------|------------------|--------------|------------------|---|---|---|--|--|--|--|--|--|
| Course Title | | Attributes | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | Employability | Entrepreneurship | Skill | Gender | Environment & | Human | Professional | | | | | | |
| CONTACT LENS- II | 1 5 5 | 1 1 | Development | Equality | Sustainability | Value | Ethics | | | | | | |
| | 4 | 7 | 4 | * | | 1 | 1 | 3,4 | | | | | |
| | Course Title CONTACT LENS- II | Employability | Course Title | Course Title Att | Course Title Attributes Employability Entrepreneurship Skill Gender | Employability Entrepreneurship Skill Gender Environment & | Course Title Attributes Employability Entrepreneurshin Skill Gender Environment & Human | Course Title Attributes Employability Entrepreneurshin Skill Gender Environment & Human Professional | | | | | |



| Effe | ctive fi | rom Se | ssion: 2 | 2021-2 | 2 | | | | | | | | | | | | | | |
|-------------|---|---------------|-----------|----------|--|---------|----------|---------------|----------|----------|-----------|------------|-----------------|-------------|-------------|----------|--------------|-----------|-----|
| Cou | rse Co | de |] | BO310 | | Title o | of the C | Course | | | BINO | CULAR | VISION | – II | | L | Т | P C | |
| Year | | | | III | | Semes | | | | | | VI | | | | 3 | 1 | 0 4 | , |
| | Requis | site | | Nil | | | quisite | | Nil | | | | | | | | | | |
| | Course The objective of this course is to inculcate the student with the knowledge of different types of strabismus | | | | | | | | | | | smus, i | ts etiolog | y, clinica | ıl | | | | |
| Obj | ectives | | feature | es, nece | ssary in | vestiga | tions an | d mana | gement | • | | | | | | | | | |
| | | | | | | | | | Cou | rse Outo | romes | | | | | | | | |
| CO1 | Ur | nderstar | ding th | e gross | anatom | v and p | hvsiolo | gy relat | | | ilar Muse | cles. | | | | | | | |
| CO2 | | | ding the | | | | | | | | | | | | | | | | |
| CO3 | | | | | | | | | | | on and S | tereopsis | | | | | | | |
| CO4 | | | ding the | | | | | | | | | | | | | | | | |
| CO5 | Ar | nalyzing | g the rel | ation b | etween | Binocul | ar Sing | le Visio | n and V | arious | law of O | cular mot | tility. | | | | | | |
| Unit No. | Title of the Unit Content of Unit | | | | | | | | | | | | Contact Hrs. | Mappe CO | d | | | | |
| | | NEUF | - | | | | anoma | lies- C | lassific | ation a | nd etiol | ogical fa | ctors, H | istory – | recording | and | | | |
| 1 | | IUSCU NOMA | | S1 | gnificar | ice. | | | | | | | | | | | 8 | CO1 | |
| | CO | WFD | GENT & | | | | | | | | | | | | vestigation | n and | | | |
| 2 | | IVER(| | N | | | non-acco | ommoda | ative C | Converg | ent squ | int- Cla | assification | on, Inve | estigation | and | 8 | CO2 | |
| | | RABI | | | Ianagen | | | CI . C | | A 0 37 | | Ŧ | ,. ,. | 134 | | | | | |
| | | | | | Divergent Strabismus- Classification, A& V phenomenon, Investigation and Management. Vertical strabismus- Classification, Investigation and Management. | | | | | | | | | | | | | | |
| 3 | | ERTIC ARAL | | | | | | | | | | | | listinction | from con | nitant | 8 | CO3 | |
| 5 | | FRABI | | | nd restri | | | Classin | cation, | nivesti | gation an | u Manag | ,cincin, L | istilicuoi | | man | 0 | 005 | |
| 4 | | | ATIO | Ľ | | | | Head | Posture | , Diplo | oia Chart | ing, Hes | s chart, | PBCT, N | line direct | ions, | 8 | CO4 | |
| 4 | INV | ESTIG | rAHOI | В | | | | | | | nent of A | | | | | | 8 | 04 | |
| | MA | NAGE | IMENT | | | | | | | | | | | | usculo- fa | | | | |
| 5 | | FRABI | | a | | | | | | | | | | | own's Sup | | 8 | CO5 | |
| Defer | n | 1 | | 0 | blique s | heathsy | ndrome | , Strabi | smus fi | x us, Co | ongenital | muscle, | fibrosis, | Surgical | manageme | ent. | | | |
| | ence B | | Noord | en RI | RIAN | VON N | JUOBL | EN'S I | Rinceul | ar vicio | n and or | ular mot | tility the | ory and | nanageme | nt of st | rahismus | Missour | ri |
| | | | 1980, 0 | | | | | | Jinocul | ai visi0 | | .uiai 1110 | inty the | луани I | nanageme | nt OF SL | i aoisilius, | 191135001 | .1, |
| | | | all the s | | | | | nded | | | | | | | | | | | |
| e-Le | arning | g Sourc | e: | | | | | | | | | | | | | | | | |
| 1. h | ttps://w | ww.yo | utube.co | | | | | | | | | | | | | | | | |
| | | | utube.co | | | | | | | | | | | | | | | | |
| 3. h | ttps://w | ww.yo | utube.co | om/wat | ch?v=-c | BrLX- | 5NtI | | | | | | | | | | | | |
| | | | | | | С | ourse A | rticula | tion M | atrix: (| Mapping | g of COs | with PC | s and PS | SOs) | | | | |
| PO- | | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO | 5 |
| C | - | | _ | | _ | | | | | | | | | | | | | | |
| CO CO | | 1 | 3 | 1 | 23 | - | - | - | 1 | 23 | - | - | 23 | 23 | 1 2 | - | 1 | 1 | |
| | | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | - | - | 2 | 3 | 2 | - | 1 | 1 | |
| | | 1 | 3 | 1 | 2 | - | - | - | 1 | 3 | - | - | 3 | 2 | 1 | - | 1 | 1 | |
| | | 1 | 3 | 1 | 2 | - | _ | - | 1 | 2 | _ | - | 2 | 2 | 1 | - | 1 | 1 | |
| | | | | | | | | | | | · · | | | | | | | | |

 CO5
 1
 3
 1
 2
 1
 2
 2

 I- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation Attributes & SDGs

| Course Code | Course Title | | | Att | ributes | | | | SDGs No. |
|----------------|--------------------|---------------|------------------|----------------------|--------------------|---------------------------------|----------------|------------------------|----------|
| BO311 | BINOCULAR VISION - | Employability | Entrepreneurship | Skill Development | Gender Equality | Environment & Sustainability | Human Value | Professional Ethics | |
| | 11 | 1 | 1 | 4 | 1 | | 1 | 1 | 3,4 |



| Effective from Sessio | on: 2021-22 | | | | | | | | | |
|-----------------------|-----------------------|--|---|--------|----------|---------|-------|--|--|--|
| Course Code | BO311 | Title of the Course | PRACTICE MANAGEMENT | L | Т | Р | С | | | |
| Year | III | Semester | VI | 3 | 1 | 0 | 4 | | | |
| Pre-Requisite | Nil | Co-requisite | Nil | | | | | | | |
| Course Objectives | The objective of this | course is to provide k | nowledge regarding business, accounting, taxation, professi | onal v | alues, a | and qua | ality | | | |
| Course Objectives | and safety aspects of | and safety aspects of optometry practice management. | | | | | | | | |

| | Course Outcomes |
|-----|---|
| CO1 | Understanding the concepts of Business Management and Practice Establishment. |
| CO2 | Analyzing and Applying various aspects of Stocking, staffing and business Computerization in running an Optometry Clinic, Optical outlet or |
| | business. |
| CO3 | Understanding, Analyzing and Applying various aspects of Taxation and Taxation Planning. |
| CO4 | Applying professional values, ethics and Confidentiality in the workplace establishment. |
| CO5 | Understanding, Analyzing and Applying various aspects of professionalism, integrity, objectivity, personal |
| | values, teamwork, etc in running a business efficiently. |

| Unit No. | Title of the Unit | Content of Unit | Contact Hrs. | Mapped CO |
|-------------|------------------------|--|-----------------|--------------|
| 1 | BUSINESS MANAGEMENT | Business Management: Practice establishment and development, Stockcontrol and costing, Staffing and staff relations, Business computerization. | 8 | CO1 |
| 2 | ACCOUNTING | Accounting Principles, Sources of finance, Bookkeeping, and cashflow. | 8 | CO2 |
| 3 | TAXATION | Taxation and taxation planning. | 8 | CO3 |
| 4 | PROFESSIONAL VALUES | Professionalism and Values, Professional values- Integrity, Objectivity, Professional competence and due care, Confidentiality. | 8 | CO4 |
| 5 | PERSONAL VALUES | Personal values- ethical or moral values, Attitude and behavior- professional behavior, treating people equally, Code of conduct, professional accountability and responsibility, misconduct, Differences between professions and importance of team efforts, Cultural issues in the healthcare environment. | 8 | CO5 |
| Referen | ce Books: | | | |

Faculty to recommend

* Latest editions of all the suggested books are recommended

e-Learning Source:

1. https://www.youtube.com/watch?v=V0GQsYeirb0

2. https://www.youtube.com/watch?v=mKJDPkd6Z0o

| | | Course Articulation Matrix: (Mapping of COs with POs and PSOs) | | | | | | | | | | | | | | | |
|--------------|-----|--|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| PO-PSO CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 |
| C01 | 2 | 3 | - | 2 | 1 | - | - | - | 1 | 1 | - | 1 | 2 | 1 | 3 | 2 | 1 |
| CO2 | 1 | 3 | - | 2 | - | - | - | - | 1 | - | - | 1 | 2 | 1 | 3 | 2 | 1 |
| CO3 | 2 | 3 | - | 2 | - | - | - | - | 1 | 1 | - | 1 | 2 | 1 | 3 | 2 | 1 |
| CO4 | 1 | 3 | - | 1 | - | - | - | - | 1 | - | - | 1 | 2 | 1 | 3 | 2 | 1 |
| CO5 | 2 | 3 | - | 1 | - | - | - | - | 1 | - | - | 1 | 2 | 1 | 3 | 2 | 1 |

| Course Code | Course Title | | Attributes | | | | | | | | | | | | | |
|-------------|--------------|---------------|------------------|----------------------|--------------------|---------------------------------|----------------|------------------------|-----|--|--|--|--|--|--|--|
| BO311 | PRACTICE | Employability | Entrepreneurship | Skill Development | Gender Equality | Environment & Sustainability | Human Value | Professional Ethics | No. | | | | | | | |
| | MANAGEMENT | 7 | 1 | √ Veropinein | √ | Bustumuomity | value √ | ∠unes √ | 3,4 | | | | | | | |



| Effective from Session: 2021-22 | | | | | | | | | | | | | | | |
|---------------------------------|------------------|---|---|---------|-----------|----------|------|--|--|--|--|--|--|--|--|
| Course Code | BO312 | Title of the Course | RESEARCH METHODOLOGY & BIOSTATISTICS | L | Т | Р | С | | | | | | | | |
| Year | III | | | | | | | | | | | | | | |
| Pre-Requisite | Nil | | | | | | | | | | | | | | |
| | The objective of | this module is to help | the students understand the basic principles of research and r | nethod | ls applie | ed to di | raw | | | | | | | | |
| Course Objectives | inferences from | the research findings. T | The students will also be made aware of the need of biostatisti | ics and | l unders | standing | g of | | | | | | | | |
| | data sampling m | ata sampling methods in addition to being given information about the relation between data and variables | | | | | | | | | | | | | |

Course Outcomes

| CO1 | Apply the principles of research and biostatistics to health practice including the design and implementation of health-related research studies. |
|------------|---|
| CO2 | Plan and execute a research study, including clinical trials. |
| CO3 | Use / organize bio-statistical analysis using computers and software's and prepare reports. |
| CO4 | Critically evaluate research activities. |
| CO5 | Make recommendations on policy and procedures. Plan and conduct an educational session. |

| Unit No. | Title of the Unit | Content of Unit | Contact Hrs. | Mapped CO |
|-------------|-------------------------------------|--|-----------------|--------------|
| 1 | RESEARCH METHODOLOGY & DESIGN | Research Methodology: Introduction to research methods, identifying research problem. Ethical issues in research- Research design, Basic Concepts of Biostatistics. | 6 | CO1 |
| 2 | DATA TYPES | Types of Data- Research tools and Data collection methods, sampling methods, Developing a research proposal. | 6 | CO2 |
| 3 | BIOSTATISTICS | Biostatistics: Need of biostatistics, what is biostatistics: beyond definition, understanding of data in biostatistics, how & where to get relevant data, Relation between data & variables. Type of variables: defining data set, Collection of relevant data: sampling methods. | 6 | CO3 |
| 4 | INTERPRETATION | Normal Distribution, Standard deviation, Standard errors. Coefficient of Variation, t- test, Chi square test. | 6 | CO4 |
| 5 | STATISTICAL ANALYSIS | Construction of study: population, sample, normality and its beyond (not design of study, perhaps), Summarizing data on the pretext of underlined study. Understanding of statistical analysis (not methods) | 6 | CO5 |
| Referen | ce Books: | | | |

1. Statistical Methods by S.P. Gupta.

2. Methods in biostatistics for medical students by B.K.Mahajan.

3. RPG Biostatistics by Himanshu Tyagi.

e-Learning Source:

 $https://www.youtube.com/watch?v=UtivXLO7c9A\&list=PLR3kIPR1Qzzky45nZ4_1HIUCbjVNU0iZx$ 1.

https://www.youtube.com/watch?v=txIS0N0l9xU&list=PLEIbY8S8u_DK7i4Fj6Hgq8sn_142k9H1L 2

3. https://www.youtube.com/watch?v=tr8M7jSlYm4

| | | | | | С | ourse A | Articula | tion M | atrix: (| Mapping | g of COs | with PC | s and PS | SOs) | | | |
|--------------|-----|-----|-----|-----|-----|---------|----------|--------|----------|---------|----------|---------|----------|------|------|------|------|
| PO-PSO CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 |
| CO1 | 2 | - | - | 1 | - | 3 | 3 | 2 | 2 | - | 2 | 2 | - | - | - | - | 1 |
| CO2 | 2 | - | - | 2 | - | 3 | 2 | 2 | 1 | - | 2 | 3 | - | - | - | - | 2 |
| CO3 | 2 | - | - | 1 | - | 3 | 3 | 1 | 2 | - | 1 | 2 | - | - | - | - | 1 |
| CO4 | 2 | - | - | 1 | - | 3 | 3 | 2 | 1 | - | 2 | 3 | - | - | - | - | 1 |
| CO5 | 2 | - | - | 2 | - | 3 | 2 | 2 | 1 | - | 2 | 2 | - | - | - | - | 1 |

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

| Course Code | Course Title | Attributes | | | | | | | | | | | |
|-------------|---------------|---------------|------------------|-------------|----------|----------------|-------|--------------|-----|--|--|--|--|
| | RESEARCH | Employability | Entrepreneurship | Skill | Gender | Environment & | Human | Professional | No. | | | | |
| BO313 | METHODOLOGY & | Employability | Entrepreneursnip | Development | Equality | Sustainability | Value | Ethics | | | | | |
| | BIOSTATISTICS | 4 | 4 | 4 | 4 | | 7 | 4 | 3,4 | | | | |



| Effective from Sess | sion: 2021-22 | 2 | | | | | |
|---------------------|---------------|----------------------------|---|---|---|---|---|
| Course Code | BO313 | Title of the Course | CONTACT LENS- II LAB | L | Т | Р | С |
| Year | III | Semester | VI | 0 | 0 | 2 | 1 |
| Pre-Requisite | Nil | Co-requisite | Nil | | | | |
| Course Objectives | To enable t | he students to have knowle | dge in both theoretical and practical aspects of Contact Lenses | | | | |

Course Objectives To enable the students to have knowledge in both theoretical and practical aspects of Contact Lenses.

| | Course Outcomes |
|-----|---|
| CO1 | Understanding about soft contact lens material & their property, selection of parameter |
| CO2 | Understanding about soft contact lens fitting characteristics and evaluation of fitting |
| CO3 | Understanding about toric soft contact lens, stabilization techniques and application |
| CO4 | Learn about complication and their management of soft contact lenses |
| CO5 | Understanding about specialty contact lenses |

| Unit No. | Titl | le of the | e Unit | | | | | | | Conten | t of Unit | | | | | | Contact Hrs. | Mapped CO |
|----------------|--|------------|--------------------|----------------|---------|-----------|--------------------------------|----------|----------|----------------------|---------------------|----------|---------|----------|------|------|-----------------|--------------|
| 1 | EXA | AMINA | TION | 1. | Exami | ination | of old so | oft Lens | 3 | | | | | | | | 6 | CO1 |
| 2 | RGP | CL FI | TTING | 2. 3. 4. | RGP I | | Assess | | | escein p lo phaki | attern a Keratoo | conus) | | | | | 6 | CO2 |
| 3 | RGP ASSESSMENT 5. RGP over refraction and Lens flexure 6. Examination of old RGP Lens 7. RGP Lens parameters 8. Fitting Cosmetic Contact Lens 9. Slit lamp examination of Contact Lens wearers TORIC CL 10. Fitting Toric Contact Lens | | | | | | | | | | | | | | | 6 | CO3 | |
| 4 | Г | ORIC | CL | 10. | Fitting | g Toric (| | 6 | CO4 | | | | | | | | | |
| 5 | SP | PECIAI | L CL | 11. 12. | SPM & | &Pachy | tact Ler metry a Contact | t SN Di | | | ring clini | cs) | | | | | 6 | CO5 |
| Refere | | | | | | | | | | | | | | | | | | |
| | | | | | Chaudha | ary, Jay | pee Bro | thers m | edical j | oublisher | rs (P) Lto | 1 | | | | | | |
| | | | ns mod | | | | | | | | (-) · · · | | | | | | | |
| | | | | lonica C | haudha | ary, Jay | bee Bro | thers m | edical | oublishe | rs (P) Ltd | • | | | | | | |
| | | Source | | | 1.9 | 71 DO | Veee | | | | | | | | | | | |
| | | | tube.co tube.co | | | | | | | | | | | | | | | |
| | | | tube.co | | | | | | | | | | | | | | | |
| <i>5</i> . III | Po.// W | •• •• .y0u | 1000.00 | iii wate | | | | | | | | | | | | | | |
| | ~~~ | | | | | C | ourse A | Articula | tion M | atrix: (] | Mapping | g of COs | with PO | s and PS | Os) | | - | _ |
| PO-P CC | ~ ~ | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 |
| CO | 1 | - | - | - | - | - | 2 | - | 2 | - | - | - | 2 | - | - | - | - | - |

| CO | - | - | | - | | | | | | | - | _ | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | - | 2 | - | 2 | - | - | - | 2 | - | - | - | - | - |
| CO2 | - | - | - | - | - | 2 | - | - | - | - | - | 2 | - | - | - | - | - |
| CO3 | - | - | - | - | - | 2 | - | 1 | - | 1 | - | 2 | - | - | - | - | - |
| CO4 | - | - | - | - | - | 2 | 2 | - | - | - | - | 2 | - | - | - | - | - |
| CO5 | - | - | - | - | - | 2 | 1 | 1 | - | - | 1 | 2 | - | - | - | 1 | 1 |

| | Course Code | Course Title | Attributes | | | | | | | SDGs |
|---|-------------|----------------------|---------------|------------------|-------------|----------|----------------|-------|--------------|---------|
| ĺ | BO313 | | Employability | Entrepreneurship | Skill | Gender | Environment & | Human | Professional | No. |
| | | CONTACT LENS- II LAB | Employability | Lincepreneursinp | Development | Equality | Sustainability | Value | Ethics | |
| | | | | | 1 | | | | | 3,4, 11 |



| Effective from Session | : 2021-22 | | | | | | | | | | | |
|---|--|---------------------|----------------------------------|---|---|---|---|--|--|--|--|--|
| Course Code | BO314 | Title of the Course | BINOCULAR VISION – II LAB | L | Т | Р | С | | | | | |
| Year | III | Semester | VI | 0 | 0 | 2 | 1 | | | | | |
| Pre-Requisite | NIL | Co-requisite | Nil | | | | | | | | | |
| Course Objective of this course is to inculcate the student with the knowledge of different types of strabismus, its etiology, clin | | | | | | | | | | | | |
| Course Objectives | features, necessary investigations and management. | | | | | | | | | | | |

| | Course Outcomes | | | | | | |
|------------|--|--|--|--|--|--|--|
| CO1 | Understanding the gross anatomy and physiology related to Extra Ocular Muscles. | | | | | | |
| CO2 | Understanding the concept & theories of Binocular single Vision. | | | | | | |
| CO3 | Understanding the concept of Grades of Binocular Vision- SMP, Fusion and Stereopsis. | | | | | | |
| CO4 | Understanding the mechanism of Ocular movement & position of gaze. | | | | | | |
| COF | Analyzing the relation between Bing suler Single Vision and Vericus law of Ocales motility | | | | | | |

CO5 Analyzing the relation between Binocular Single Vision and Various law of Ocular motility.

| Unit No. | Title of the Unit | Content of Unit | Contact Hrs. | Mapped CO | | | | | | | |
|--|-------------------|---|--------------|-----------|--|--|--|--|--|--|--|
| 1 | Clinical | Deals with hand-on session the basic of binocular vision evaluation techniques. | 30 | CO1-5 | | | | | | | |
| Referen | Reference Books: | | | | | | | | | | |
| 1. Gunter K. Von Noorden: BURIAN- VON NOORDEN'S Binocular vision and ocular motility theory and management of strabismus, Missouri, Second edition, 1980, C. V. Mosby Company. | | | | | | | | | | | |

2. *Latest editions of all the suggested books are recommended

e-Learning Source:

1. https://www.youtube.com/watch?v=y9FTgp3ODog

2. https://www.youtube.com/watch?v=K3txN1Kv0CU

3. https://www.youtube.com/watch?v=-oBrLX-5NtI

| | | | | | C | Course A | Articula | ation M | latrix: | (Mappin | g of CO | s with PO | Os and P | SOs) | | | |
|--------------|-----|-----|-----|-----|-----|----------|----------|---------|---------|---------|---------|-----------|----------|------|------|------|------|
| PO-PSO CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 |
| C01 | 1 | 3 | 1 | 2 | - | - | - | 1 | 1 | 1 | - | 3 | 2 | 2 | 1 | 1 | 1 |
| CO2 | 1 | 3 | 2 | 2 | - | - | - | 1 | 1 | 1 | - | 3 | 2 | 2 | 1 | 1 | 1 |
| CO3 | 1 | 3 | 1 | 2 | - | - | - | 1 | 1 | 1 | - | 3 | 2 | 1 | 1 | 1 | 1 |
| CO4 | 2 | 3 | 1 | 2 | - | - | - | 1 | 1 | 1 | - | 3 | 2 | 2 | 1 | 1 | 1 |
| CO5 | 1 | 3 | 1 | 2 | - | - | - | 1 | 1 | 1 | - | 3 | 2 | 1 | 1 | 1 | 1 |

| | | | Attributes | & SDGs | | | | | |
|-------------|------------------------------|---------------|------------------|----------------------|--------------------|---------------------------------|----------------|------------------------|-----|
| Course Code | Course Title | Attributes | | | | | | | |
| BO314 | BINOCULAR VISION - II LAB | Employability | Entrepreneurship | Skill Development | Gender Equality | Environment & Sustainability | Human Value | Professional Ethics | No. |
| | | 1 | * | 1 | √ | | 1 | 4 | 3,4 |



| Effective from Sessio | on: 2021-22 | | | | | | | | | | | | |
|--------------------------|---|--|--|-------------|----------|------|---|--|--|--|--|--|--|
| Course Code | BO315 | Title of the Course | RESEARCH PROJECT PROPOSAL- LAB | - LAB L T P | | | | | | | | | |
| Year | III | Semester | VI | 0 | 0 | 2 | 1 | | | | | | |
| Pre-Requisite | Nil | Co-requisite | Nil | | | | | | | | | | |
| | The objective | e of this module is to hel | p the students understand the basic principles of research and metho | ods app | olied to | draw | | | | | | | |
| Course Objectives | inferences from the research findings. The students will also be made aware of the need of biostatistics and understanding of data, | | | | | | | | | | | | |
| | sampling met | ampling methods, in addition to being given information about the relation between data and variables. | | | | | | | | | | | |

Course Outcomes

| | | Course Outcomes | | | | | | | |
|---|-----|---|--|--|--|--|--|--|--|
| C | 201 | Apply the principles of research and biostatistics to health practice including the design and implementation of health-related | | | | | | | |
| | | research studies. | | | | | | | |
| С | CO2 | D2 Plan and execute a research study, including clinical trials. | | | | | | | |
| C | CO3 | Use / organize bio-statistical analysis using computers and software's and prepare reports. | | | | | | | |
| С | CO4 | O4 Critically evaluate research activities. | | | | | | | |
| 6 | | M. 1 | | | | | | | |

CO5 Make recommendations on policy and procedures. Plan and conduct an educational session.

| Unit No. | Title of the Unit | Content of Unit | Contact Hrs. | Mapped CO | | | | | | | | |
|-------------|---------------------------------|---|-----------------|---------------------|--|--|--|--|--|--|--|--|
| 1 | Data | 1. Team of students will be doing a research project under the guidance of a supervisor (who could be optometrists/vision scientists/ ophthalmologist). Student will get the experience of doing research in systematic approach – identifying the primary question, literature search, identifying the gaps in the literature, identifying the research question, writing up the research proposal, data collection, data analysis, thesis writing and presentation. | 15 | CO1, CO2, CO3 | | | | | | | | |
| 2 | Project | 2. Project is spread through sixth to eighth semester. | 15 | CO4, CO5 | | | | | | | | |
| Referen | eference Books: | | | | | | | | | | | |
| 1. Stat | tistical Methods by S.P. Gupta. | | | | | | | | | | | |
| 2. Me | | | | | | | | | | | | |

3. RPG Biostatistics by Himanshu Tyagi.

e-Learning Source:

 $4. https://www.youtube.com/watch?v=UtivXLO7c9A \& list=PLR3kIPR1Qzzky45nZ4_1HIUCbjVNU0iZx$

- 5. https://www.youtube.com/watch?v=txIS0N0l9xU&list=PLEIbY8S8u_DK7i4Fj6Hgq8sn_l42k9H1L
- 6. https://www.youtube.com/watch?v=tr8M7jSlYm4

| | | | | | C | Course A | Articula | ation M | latrix: (| (Mappin | g of CO | s with PO | Os and Pa | SOs) | | | |
|--------------|-----|-----|-----|-----|-----|----------|----------|---------|-----------|---------|---------|-----------|-----------|------|------|------|------|
| PO-PSO CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 |
| C01 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | - | - | 2 | 2 | 1 | - | 1 | 1 |
| CO2 | 1 | 3 | 1 | 3 | - | - | - | 1 | 3 | - | - | 3 | 3 | 2 | - | 1 | 1 |
| CO3 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | - | - | 2 | 3 | 1 | - | 1 | 1 |
| CO4 | 1 | 3 | 1 | 2 | - | - | - | 1 | 3 | - | - | 3 | 2 | 1 | - | 1 | 1 |
| CO5 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | - | - | 2 | 2 | 1 | - | 1 | 1 |

| Course Code | Course Code Course Title Attributes | | | | | | | | | |
|-------------|-------------------------------------|---------------|------------------|----------------------|--------------------|---------------------------------|----------------|------------------------|-----|--|
| BO315 | RESEARCH PROJECT | Employability | Entrepreneurship | Skill Development | Gender Equality | Environment & Sustainability | Human Value | Professional Ethics | No. | |
| | PROPOSAL- LAB | 4 | 4 | 1 | 1 | | 1 | 1 | 3,4 | |



| Effective from Sessio | on: 2021-22 | | | | | | | | |
|-----------------------|--|--------------------------|----------------------|---|---|---|---|--|--|
| Course Code | BO316 | Title of the Course | HOSPITAL POSTING LAB | L | Т | Р | С | | |
| Year | III | Semester | VI | 0 | 0 | 8 | 4 | | |
| Pre-Requisite | Nil | Co-requisite | Nil | | | | | | |
| Course Objectives | The objective of this course is to inculcate the student with the knowledge of different types, its etiology, clinical features, | | | | | | | | |
| Course Objectives | necessary Op | tometry investigations a | and management. | | | | | | |

| | Course Outcomes | | | | | | | |
|-----|--|--|--|--|--|--|--|--|
| CO1 | Analysing the relation between Binocular Single Vision and Various law of Ocular motility. | | | | | | | |
| CO2 | Applying professional values, ethics and Confidentiality in the workplace establishment. | | | | | | | |
| CO3 | Learn about complication and their management of soft contact lenses | | | | | | | |
| CO4 | Understanding the mechanism of Ocular movement & position of gaze. | | | | | | | |
| CO5 | Analyzing the relation between Binocular Single Vision and Various law of Ocular motility. | | | | | | | |

| Unit No. | Title of the Unit | Content of Unit | Contact Hrs. | Mapped CO | | | | | | |
|------------------|-------------------|--|-----------------|--------------|--|--|--|--|--|--|
| | | The course is the final series of five directed clinical courses. The student will complete the clinical training by practicing all the skills learned in classroom and | | CO1, CO2. | | | | | | |
| 1 | CLINICAL POSTING | clinical instruction. Practical aspects of Binocular vision II, public health & | 80 | CO2, CO3, | | | | | | |
| | | community optometry, and occupational optometry will be covered under the | | CO4, | | | | | | |
| | | studentship. | | CO5 | | | | | | |
| Reference Books: | | | | | | | | | | |

Gunter K. Von Noorden: BURIAN- VON NOORDEN'S Binocular vision and ocular motility theory and management of strabismus, Missouri, Second 1. edition, 1980, C. V. Mosby Company.

Contact lens primer by Monica Chaudhary, Jaypee Brothers medical publishers (P) Ltd 2.

3. IACLE Contact lens modules.

e-Learning Source:

https://www.youtube.com/watch?v=UtivXLO7c9A&list=PLR3kIPR1Qzzky45nZ4_1HIUCbjVNU0iZx https://www.youtube.com/watch?v=txIS0N0I9xU&list=PLEIbY8S8u_DK7i4Fj6Hgq8sn_142k9H1L 1.

2.

3. https://www.youtube.com/watch?v=tr8M7jSlYm4

| | Course Articulation Matrix: (Mapping of COs with POs and PSOs) | | | | | | | | | | | | | | | | |
|--------|--|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| PO-PSO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 |
| СО | 101 | 102 | 105 | 104 | 105 | 100 | 107 | 100 | 109 | 1010 | 1011 | 1012 | 1301 | 1302 | 1305 | 1504 | 1505 |
| CO1 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | - | - | 2 | 2 | 1 | - | 1 | 1 |
| CO2 | 1 | 3 | 1 | 3 | - | - | - | 1 | 3 | - | - | 3 | 3 | 2 | - | 1 | 1 |
| CO3 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | - | - | 2 | 3 | 1 | - | 1 | 1 |
| CO4 | 1 | 3 | 1 | 2 | - | - | - | 1 | 3 | - | - | 3 | 2 | 1 | - | 1 | 1 |
| CO5 | 1 | 3 | 1 | 2 | - | - | - | 1 | 2 | - | - | 2 | 2 | 1 | - | 1 | 1 |

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

| | Course Code | Course Title | Attributes | | | | | | | | | |
|--|-------------|------------------|---------------|------------------|-------------|----------|----------------|-------|--------------|-----|--|--|
| | BO316 | HOSPITAL POSTING | Employability | Entrepreneurship | Skill | Gender | Environment & | Human | Professional | No. | | |
| | | | Employuonity | Entrepreneursnip | Development | Equality | Sustainability | Value | Ethics | | | |
| | | LAB | 4 | 4 | 1 | √ | | 1 | 1 | 3,4 | | |