

**REGULATIONS & COURSES OF STUDIES OF 4 YEARS
BACHELOR OF SCIENCE OPTOMETRY (BO): 2023**



**THE ODISHA UNIVERSITY OF HEALTH SCIENCES,
BHUBANESWAR- 751009**

**REGULATIONS & COURSES OF STUDIES FOR THE
4 YEARS BACHELOR OF SCIENCE IN OPTOMETRY DEGREE - 2023**

1. Title and commencement of the Program:

- (a) These regulations may be called "Bachelor of Science in Optometry (In short BO) Regulations 2023".
- (b) They shall come into force from the current academic year 2023-24.
- (c) The Regulations and courses of studies prescribed are subject to modification by the Academic Council and Executive Board of the Odisha University of Health Sciences, Bhubaneswar from time to time.

2. Introduction: Optometry is a specialized healthcare profession that involves the examination of eyes for defects of vision, diagnosis, and treatment. It means a health care profession that is concerned especially with examining the eye for defects and faults of refraction, with prescribing correctional lenses, eye exercises and/or visual rehabilitation care for visually impaired, with diagnosing diseases of the eye, and with treating such diseases or referring them for treatment.

Optometry as a profession has the primary public health responsibility for eliminating uncorrected refractive error (the leading cause of vision impairment globally). As primary eye care practitioners, optometrists have a vital role in detecting potentially serious eye diseases such as cataract, glaucoma and Diabetic retinopathy, age-related maculopathy, as well as general health conditions such as hypertension and diabetes, which means optometrists can also help alleviate the burden of other causes of blindness through diagnosis, referral and in some cases co-management.

The Bachelor of Science Optometry program spans four years, strategically blending three years of academic exploration with another year of immersive internship experience. This holistic approach of optometry course imparts theoretical knowledge while ensuring students gain hands-on exposure, preparing them for the challenges and opportunities ahead as an Optometrist.

3. Goal: To develop capability in detecting, planning, evaluation, and inventions in achieving the eye care needs of Indian society.

4. Objective: At the completion of this course, the student should –

- i). Be able to develop skills to provide comprehensive eye examination
 - a. To acquire knowledge on ocular structures, its functions and pathological changes,
 - b. To carryout ophthalmic investigations
 - c. To impart knowledge with regard to common eye diseases,
 - d. To impart knowledge on treatment modalities from the perspective of counselling
 - e. To acquire knowledge about the referral guidelines for ocular and systemic conditions
- ii). Be able to correct refractive error and provide spectacle prescription.
- iii). Be able to fit, evaluate, prescribe and dispense contact lenses for refractive correction and other ocular conditions
- iv). Be able to assess the low vision and provide comprehensive low vision care.
- v). Be able to have adequate knowledge to develop skill in manufacturing of spectacle lenses, contact lenses and low vision devices.

- vi). Be able to do complete binocular vision assessment, manage non-strabismic binocular vision anomalies and refer condition which warrants surgery.
- vii). Be able to assess the visual demands for various occupations and match it to the visual capabilities. Also be able to advice on eye safety wear for various occupations.
- viii). Have knowledge and skill for early detection of various ocular conditions and pathologies – Refractive error, Strabismus, Cataract, Diabetic retinopathy, Glaucoma etc.
- ix). Have knowledge regarding organizations of eye banks and preservation of ocular tissues.
- x). Have knowledge on sensory substitution and other rehabilitation measures for totally visually challenged.
- xi). Have knowledge of counselling on visual/ocular hygiene, nutritional and environmental modifications.

5. **Eligibility for admission to the Course:**

- (i) +2 Science with Physics, Chemistry, Biology and or Mathematics from a recognized board of the country individually in each subject and with minimum of 50% marks in Physics, Chemistry, Biology or Mathematics taken together. However, 40% for SC/ ST and 45% for Physically Challenged candidates.
- (ii) Lateral entry to second year of undergraduate optometry programme for candidates who have passed diploma program (Refraction or its equivalent) from the Government Boards and recognized by State / Central University, fulfilling the conditions specified and these students are eligible to take admission on lateral entry system only if the related subjects have been studied at diploma level.
- (iii) **Physical fitness Certificate:** Every candidate before admission to the course shall be required to submit College Leaving Certificate, Migration Certificate (if applicable) in original, Physical Fitness Certificate and a declaration before the Principal / Director of the Institution that
 - (a) I am not continuing in any Degree Course under any State, Deemed, Central University and Autonomous Body.
 - (b) I have not been involved in any kind of criminal and unlawful activities in the past.

Provided further, after fulfilment of all condition (s), the University on receipt of student detail with prescribed fees, shall issue University Registration Number as per OUHS First Statute-2023, which will be used as Roll Number for all Semester Examination (s).

- 6. **Duration:** The duration of the course is 4 Years consisting of 8 (Eight) Semesters. The Clinical training - Internship will be undertaken in 7th and 8th semester.
- 7. **Medium of instruction:** English shall be the medium of instruction for all the subjects of study and for examination of the course.
- 8. **Commencement of the Course:** The course will commence from August / September 1st of every year.
- 9. **Academic Year:** The academic year shall be twelve months commencing on the first day of enrolment into the course.
- 10. **Attendance:** The component wise attendance percentile shall be as under;

Subjects	Eligibility criteria
Subjects taught in one phase	75% theory, 80% Practical
Internship & Project	90%

11. **Course Cycle, Codes and Structure:** The three-year full-time programme consists of six semesters. There shall be 29 (Twenty-Nine) numbers of (University and Non-University) theory and practical subjects including Internship and Project in the final Year. The total marks for the Course is 2700 including internship, and Project Report.

The total number of digits used in the course is 08 (Eight).

- The 1st two digits (Numerical) indicates the Year of Courses of Studies.
- The 3rd digit (Letter) indicates the "Faculty" Allied Health Sciences.
- The 4th & 5th digits (Letters) indicate the Course Code "BO".
- The 6th digit (Numerical) indicates the Semester.
- The 7th & 8th digits (Numerical or Letter with numerical) indicate sequence of the Theory Subject or Practical subject (s) of the Semester.

Table No 01 Course Structure:

Code	Title	Contact Hours			Internal Assessment		Uni- Examination		Total Marks
		Th	Practice	Lab Posting	CIA+SE	ESE	Theory	Practical / Project	
First Semester									
23ABO101	General Anatomy	60	40	--	30 (10+20)	--	70	--	100
23ABO102	General Physiology	60	40	--	30 (10+20)	--	70	--	100
23ABO103	General Biochemistry	60	40	--	30 (10+20)	--	70	--	100
Non-University Examination									
23BOT104	Introduction to Health Care Delivery System in India	50	--	--	25	--	--	25	50
23ABO105	Basic Computers and information Science	30	20	--	25	25	--	--	50
Total		260	140		140	25	210	25	400
Second Semester									
23ABO201	Pathology	60	40		30 (10+20)	--	70	--	100
23ABO202	Ocular Microbiology	60	40		30 (10+20)	--	70	--	100
23ABO203	Basic & Ocular Pharmacology	60	40		30 (10+20)	--	70	--	100
Non-University Examination									
23ABO204	Communication and Soft Skills	50	--	--	25	--	--	25	50
23ABO205	Medical Terminology Record keeping and orientation to Medical Laboratory Science	30	20	--	25	25	--	--	50
Total		260	140		140	25	210	25	400

Code	Title	Contact Hours			Internal Assessment		Uni- Examination		Total Marks
		Th	Practice	Lab Posting	CIA+SE	ESE	Theory	Practical / Project	
Third Semester									
23ABO301	Ocular Anatomy, Physiology and Biochemistry	60	40	--	30 (10+20)	--	70	--	100
23ABO302	Geometrical Optics I & II	60	40		30 (10+20)	--	70	--	100
23ABO303	Physical Optics	60	40	---	30 (10+20)	--	70	--	100
Non-University Examination									
23ABO304	Professionalism and Values	50	--	--	25	--	--	25	50
Total		230	120		115		210	25	350
Fourth Semester									
23ABO401	Optometric I & II and Dispensing Optics	60	40		30 (10+20)	--	70	--	100
23ABO402	Clinical Examinations of Visual System	40	60		30 (10+20)	--	70	--	100
23ABO403	Optometric Instruments and Appliances	60	40		30 (10+20)	--	70	--	100
23ABO41P	Ocular Diseases I & II	40	60		--	25	--	75	100
23ABO42P	Clinical Optometry I & II	60	60	--	--	25	--	75	100
Non-University Examination									
23ABO404	IQPS (Introduction to Quality and Patient Safety)	20	30	--	25	25	--	--	50
Total		280	290		115	75	210	150	550
Fifth Semester									
23ABO501	Contact Lens I & II	60	40	--	30 (10+20)	--	70	--	100
23ABO502	Geriatric Optometry & Paediatric Optometry	60	40	--	30 (10+20)	--	70	--	100
23ABO503	Low Vision Care	60	40	--	30 (10+20)	--	70	--	100
23ABO51P	Clinical Optometry III, IV & V	--	100	--	30 (10+20)	--	--	70	100
Non-University Examination									
23ABO504	Medical Law & Ethics	20	30	--	25	25	--	--	50
Total		200	250		145	25	210	70	450
Sixth Semester									
23ABO601	Binocular Vision I & II	60	40		30 (10+20)	--	70	--	100
23ABO602	Systemic Disease	60	40		30 (10+20)	--	70	--	100
23ABO603	Public Health & Community Optometry	60	40		30 (10+20)	--	70	--	100

Code	Title	Contact Hours			Internal Assessment		Uni- Examination		Total Marks
		Th	Practice	Lab Posting	CIA+SE	ESE	Theory	Practical / Project	
Non-University Examination									
23ABO604	Biostatistics and Research Methodology	20	30		25	25	--	--	50
Total		200	150		115	25	210	--	350
PROJECT & INTERNSHIP									
23ABO8P1	Internship	--	50	1350	--	--	--	100	100
23ABO8P2	Project & Viva Voce	--	--	100	--	--	--	100	100
Total			50	1450				200	200
Grand Total									2700

* Non-University Examinations.

- 12. Plan of Studies (Teaching, Training & Practice):** A student admitted into 1st year of B.Sc in Optometry Course shall be required to complete the teaching and training including Internship for four years consisting of 8 semesters. In case of lateral entry, s/he has to study for three years i.e. 3rd to 6th Semesters followed by Project and Internship.

12.1. Semester (Odd / Even): Each semester shall consist of not less than 100 working days. The Odd Semesters shall commence from the month of June / July to November / December and Even Semesters shall be conducted from December / January to May / June in every calendar year.

12.2. Internship and Project: After the internal examination, every student during the program will undergo an on-the-clinical posting and after course completion final examination, every student will go for internship and research project in various organizations & hospitals. The schedule of Internship in the functional departments shall be notified by the Principal / Head of the Department.

The Internship is for 12 months (July – June) or 1 year. Total number of days (after deducting for national holidays & Sundays + Examination): 250 days (6 days / week; 6 hours / day) = 1500 hours or minimum of 18 weeks /semester (216 days). Students are encouraged to involve in community outreach activities as part of their clinical postings without absentsing himself /herself for the other regular classes.

During the training period, the student will be exposed to Hands on training and exposure to the following techniques, recording of visual acuity on patients, Usage of auto refractors, Refraction, Verification of glasses, Anterior segment Examination, Patient care during after procedure, Theoretical and practical classes at the posting, visit to optician to learn about various types of spectacles and glasses and Factory visit to observe grinding and fitting of glasses.

Project report (thesis) needs to be submitted at the end of internship. During the training, the organization (where the student is undergoing training) will assign a problem/project to the student. The student, after completion of the training, will submit a report at the end of the session. The report will have two certificates. One by the Head of the Department and the other by the Reporting Officer of the organization where the student has undergone training. These two certificates should be attached in the beginning of the report. The report will be evaluated by two external examiners. They shall award marks on the Internship Report independently out of a maximum of 100 marks each. There will be no internal examination.

13. Scheme of Internal Assessments, Practical / Clinical, Assignment / Project (wherever applicable) including Non – University Examinations and passing criteria:

13.1. Internal assessment: It will be for theory and practical both. It will be done through the whole year. Candidate must obtain at least 50% marks in theory and practical separately in internal assessment to be eligible for the annual university examination. The Internal Assessment (Theory),

Practical and Assignment or Project excluding Dissertation Report will be done as prescribed hereunder:

Table No- 02 Internal Assessment (Theory)

	Internal Assessment	Weightage
Component-1	Continuous assessment	10
	Attendance – (95-100%: 2 marks, 90-94: 1.5 marks, 85-89: 1 mark, 80-84: 0.5 mark,	2
	Written assignments 2	10
	Seminar / Microteaching / individual presentation (two)	12
	Group project / work / report	6
	Total	30/3=10
Component-2	Sessional Examination	20
	ST -Two STs per course	20
	Total	20

(Those subjects in which University practical examination is not held, internal assessment will be done on the basis of theory examination and projects and assignments.)

Table No -03 Internal Assessment (Practical / Clinical).

	Internal Assessment	Weightage
Component-1	Continuous Assessment	10
	Attendance – 2 marks (90-100%: 2 marks, and 80-89: 1 mark.	2
	Clinical assignments – 10 marks (Clinical presentation – 3, Instrument presentation & report – 2, case study report – 5)	10
	Continuous evaluation of clinical performance – 10 marks	10
	End of posting OSCE – 5 marks	5
	Completion of procedures and clinical requirements – 3 marks	3
Component-2	Sessional Exam	20
	OSCE (Objective Structured Clinical Examination)	15
	DOP (Directly Observed Practical in Clinical Setting)	25
	Total	40/2

- 13.2.** (i) College Exam (End of Semester) – 25 marks (50/2 = 25 marks)
 MCQ – $10 \times 1 = 10$
 Essay/situation type – $1 \times 10 = 10$
 Short – $4 \times 5 = 20$
 Very Short – $5 \times 2 = 10$
- (ii) University Practical Examinations – 25 marks (50/2 = 25 marks)
 OSCE – 15 marks
 DOP – 35 marks
- (iii) Competency Assessment (6th Semester)
 Integrated OSCE (Stations based on every specialty) = 100 marks
 Total of 3 Examiners: external – 2 and internal – 1 Internal examiners may be chosen from college faculty with required qualification or from hospital with required qualification.

Candidate must obtain at least 50% marks in the theory and practical examination separately in the internal assessment to be eligible for appearing in the End Semester University Examination. If a candidate is absent in theory and practical internal assessment examinations, he/she shall be given chance to re-test in the internal assessment evaluation before the scheduled last date of Registration of End Semester Examination.

13.3. A student shall be required to secure minimum 50% marks combined both in theory and practical / clinical which would be form as part of requirement to treat the student eligible for appearing End Semester Examinations. These marks shall be submitted before the commencement of University End Semester Examinations as per University cut-off date of submission. If a College / Institution fail to submit on or before the cut-off date, it shall be assumed that the Institution has not conducted any examination, and student shall be declared as "Failed".

14. Eligibility criterions for appearing University Examinations:

A candidate shall be eligible to carry forward all the courses if a s/he fulfills the following criterions and hereafter prescribed under Regulation 18.1.

In addition,

- (i) Attended 75 % theory and 80% practical classes,
- (ii) Passed in Internal Assessment (s) and
- (ii) Not been debarred for any objectionable mis-conduct or malpractice by the Institution, and University.

15. Examinations (University and Non-University End Semester Examinations):

- 15.1. The University shall conduct examinations of the theory subjects. However, the College / Institution shall conduct examinations of the Non-University Theory and Practical subjects. Candidate failing in practical examination will be considered as failed, and shall be required to re-appear both theory and practical.
- 15.2. The University shall appoint External examiner for evaluation of Project Report and conduct Oral Viva Voce / Practical.
- 15.3. A candidate failed in a theory subject, if eligible, can appear for the failed subjects of previous semester (s) as per Odd and Even Semester examinations conducted by the University as per Academic Calendar.

16. Registration: A candidate shall be eligible to register for a Semester Examination only when s/he has fulfilled college and corresponding university criterions.

- (i) The College / Institution shall register the subjects of eligible students with the University on payment of a fee as to be notified by the University towards conduct of Regular / Back Theory examinations. The College / Institution shall retain 15% of the University Examinations fees to meet the expenditure of Examination Centre. However, such retention of fees shall not be applicable in case of Back Paper or Supplementary Examinations.
- (ii) The College / Institution shall follow uniform Question pattern / template / Answer Booklets and Records for conducting Internal Assessment and Tests.

17. Passing Heads: The candidate is declared to have passed University examinations in subjects, if he/she secure 50% of the marks in the theory and 50% marks in the practical separately.

Further, in the event, a candidate failed in either theory, it shall be treated as "Fail" in the core theory, and s/he shall be required to re-appear either theory and practical as back paper (s).

18. Promotion to Higher Semester, Re-admission after discontinuation or Break of Study into the Course:

i) Promotion & Carry over benefit: A candidate shall be eligible to be promoted to 3rd & 5th Semester (5th Semester in case of Lateral entry) if s/he has completed prescribed studies, fulfilled college level attendance, and has appeared Continuous Internal Assessments, registered, appeared and passed in minimum 50% or three (03) numbers of theory subjects of preceding Academic Years University's Odd and Even (or combine) Semester University Examinations.

Provided, if a candidate registered for Odd and Even Semester Examination of the year, but did / could not appear both, then s/he shall continue in the same year. Further, if the candidate, registered, but did / could not appear in one of the Semester on medical ground, in such case, s/he shall be promoted to upper semester. However, the Candidate has to submit a medical certificate from a Government Hospital clearly specifying that the candidate is not in a condition to sit for University Examinations during the whole scheduled period of University Examinations. The decision of the Medical Board in such case (s) shall be final and binding.

Provided further, if a student has been promoted on medical ground, s/he shall be required to appear and clear minimum three theory subjects of the said semester in the immediate upper semester odd / even semester back examinations, and failing which s/he shall not be promoted.

ii) A candidate will be allowed for re-admission;

a) If s/he did / could not register for two consecutive semesters examinations.

b) if the candidate is eligible, and has permissible tenure to complete the remaining semesters.

Provided further, s/he shall be required to apply in the prescribed form with fees as prescribed for the purpose, and shall be admitted in the course in force (Dual Syllabus).

19. **Supplementary Examination:** There will be a supplementary examination for 5th and 6th Semester theory subjects within three months from the date of publication of 6th semester examination to extend a chance to clear the failed theory subjects of 5th & 6th Semester if any only. However, a candidate shall not be eligible; if s/he has not registered for the 5th and or 6th Semesters, and accordingly has not appeared the 5th and or 6th Semester University Examinations.

A student having more backlog after availing the chance, shall not be allowed to re-appear in the subsequent years Supplementary Examination meant for the regular final year students only. Such student (s) will be allowed re-appear back theory subjects only with the student in Regular Odd or Even Semester Examinations.

20. **Classification of successful candidates and award of Degree:** The University shall adopt Marking and division practice.

20.1. Candidate will be awarded division at the end of third (final) academic year as follows: Percentage of marks will be calculated from aggregate of total marks obtained in all the six semester examinations.

(i) First Division - 60% and above in the aggregate marks of all subjects.

(iv) Second Division – 50% or more but less than 60% in the aggregate of marks of all subjects.

20.2. A candidate will be awarded Degree in Bachelor of Science in Optometry to a candidate who complete the prescribed period, and courses of Studies, and has passed in all subjects (Theory & Practical) including Internship.

21. **Record and Evaluation Guidelines:** The Practical Answer Booklet, Project Assignment / Record shall be as per the guidelines to be issued in this regard shall be strictly followed by the Examiners while assessing a practical component.

22. **Withdrawal from Course, Struck off from the rolls of the College / Institution Admitted and withdrawal of Degree:**

22.1. The University upon application, shall cancel the registration number issued to the candidate, and issue migration certificate on payment of fee as to be prescribed by the University.

- 22.2.** Any student who does not clear the B.Sc in Optometry Course in all the subjects within a period of 8 years (7 Years for Lateral entry), from the date of admission shall be discharged from the course.
- 22.3.** Any student found to have obtained admission in fraudulent manner, if the documents furnished for gaining admission by any student are found to be forged/ false/ doctored at any stage of study.
- 22.4.** If any student is found to be involved in serious breach of discipline.
- 22.5.** A degree awarded by the University may be withdrawn if it is found at the later stage that the candidate has submitted any forged document or ineligible at the time of admission to the course.
- 23. Medal (s), Award (s) & Prize (s):** The University shall notify as and when decided by the Academic Council and Executive Body from time to time.
- 24. Discretionary Power:** Notwithstanding anything contained in the above, in case of any doubt or difficulty as to the interpretation of these Regulation (s), the matter shall be referred to the Vice Chancellor and his / her decision in this behalf, subject to the provisions of the OUHS Act - 2021, and OUHS 1st Statute - 2023 shall be final.



Registration no:

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Total Number of Pages: (XX)		BO	
		SUB_CODE:	
(--- th) Year Regular / Back Examination: 20			
SUBJECT NAME:			
BRANCH:			
Max Time: 3 Hours		Sitting: 1 st 10.00 AM to 1.00 PM	
Max Marks: 70			
Q. CODE: (To be allotted by the University)			
All Questions are compulsory. Illustrate answer with diagrams wherever relevant / required (Applicable for Theory Subjects where there is one Paper)			
The figures in the right-hand margin indicate marks.			
Q 1		Long Answer Question (Answer any one out of two)	(1 X 10 marks)
	a)		
	b)		
Q 2		Long Answer Question (Answer any one out of two)	(1 X 10 marks)
	a)		
	b)		
Q 3		Short Answer Questions (Focused) (Answer any two out of three)	(2 x 5 marks)
	a)		
	b)		
	c)		
Q 4		Short Answer Questions (Applied) (Answer any two out of three)	(2 x 5 marks)
	a)		
	b)		
	c)		
Q 5		Short Answer Case based question (Answer any two out of three)	(2 x 5 marks)
	a)		
	b)		
	c)		
Q 6		Short Answer problem-based question (Answer any two out of three)	(2 x 5 marks)
	a)		
	b)		
	c)		
Q 7		Objective Type (Selection / Supplied)	(10 x 1 mark)
	a)		
	b)		
	c)		
	d)		
	e)		
	f)		
	g)		
	h)		
	i)		
	j)		