

**Maulana Abul Kalam Azad University of Technology, WB**  
**(Formerly known as West Bengal University of Technology)**

**Syllabus of Bachelor of Optometry**  
**Effective from academic session 2023-24**

### **Aims of Bachelor's Degree Programme in Optometry**

- work independently or in conjunction with other eye/health care professionals.
- The optometrist will be knowledgeable, skilful and analytical in diagnosis, treatment planning, management of visual defects and impairments and in co-managements of ocular conditions.
- work in hospitals (both private and public sectors), optical outlets and/or work as an independent practitioner.
- The course will lead to a basic degree in optometry, which is considered as the minimum essential for statutory registration of optometrists in countries where optometry has been brought under legislation.
- Undertake public health optometry projects and vision screening eye camps in schools, colleges, urban slums, rural areas and also practice occupational optometry in industries.
- Public education on ocular hygiene and related nutritional and environmental counseling.
- Offer a helping hand and or efficiently manage and successfully run any ophthalmic clinic, optometry department in hospitals, optical shops, and offer product expertise in ophthalmic industry and trade.
- Provide sufficient information and counsel effectively the patient about the treatment options available, purpose of the procedure, benefits, possible adverse consequences, and limitations.
- Engage oneself in self-assessment and structure their continuing professional education to refine existing skills and acquire new skills for patient care and professional advancement.
- Practice professional and ethical responsibilities with a high degree of credibility, integrity and social concern.

### **Graduate Attributes in B. OPTM**

The graduate attributes in B. OPTM are the outline of the expected course learning outcomes mentioned in the beginning of each course. The characteristic attributes that a B. OPTM graduate will be able to demonstrate through learning various courses are listed below:

#### **a. Disciplinary Knowledge**

Capability of executing comprehensive knowledge and understanding of one or more disciplines that form part of Optometry.

#### **b. Communication skills**

- i. Ability to communicate long standing unsolved problems in optometry & vision Science;
- ii. Ability to show the importance of optometry as precursor to various diseases and refractive errors of civilization.

#### **c. Critical Thinking**

- i. Ability to engage in reflective and independent thinking by understanding the concepts in every area of optometry and vision science;
- ii. Ability to examine the results and apply them to various problems appearing in different branches of Optometry.

#### **d. Problem solving**

- i. Capability to deduce an ocular and associate problem and apply the classroom learning into practice to offer a solution for the same.
- ii. Capabilities to analyze and synthesize data and derive inferences for valid conclusion;
- iii. Able to comprehend solutions to sustain problems originating in the optometry such as contact lens, amblyopia, refractive errors, ocular injuries etc.

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**e. Research Related Skills**

- i. Ability to search for, locate, extract, organize, evaluate, and use or present information that is relevant to a particular topic;
- ii. Ability to identify the developments in various branches of Commerce and Business.

**f. Information and Communication Technology (ICT) digital literacy**

Capability to use various technical ICT tools (like spreadsheet, powerpoint ) for exploring, analysis, and using the information for analytical purposes and demonstration as well as presentation.

**g. Self-directed Learning**

Capability to work independently in diverse projects and ensure detailed study of various facets of Optometry and vision science.

**h. Moral and Ethical Awareness/Reasoning**

- i. Ability to ascertain unethical behaviour, falsification, and manipulation of information;
- ii. Ability to manage self and various social systems.

**i. Lifelong learning**

Capability of self-paced and self-directed learning aimed at personal development and for improving knowledge/skill development and reskilling in all areas of Optometry.

## **Programme Learning Outcomes of Bachelor in Optometry**

The curriculum for the bachelor of Optometry degree program is broad in scope while emphasizing areas of traditional strength and uniqueness within the profession. The faculty members of the Optometry recognize the value and importance of active learning in the classroom, wherein students are active participants in their learning. The goals of incorporating active learning techniques are to enhance the retention of material beyond individual classes, the development of problem-solving skills, enthusiasm for learning, and motivation for life-long study. While the courses in the curriculum are listed in a traditional lecture and laboratory format, active learning is an element in both the classrooms and laboratories.

Optometry faculty adopted the following program learning outcomes:

**PLO-1 Knowledge Acquisition & Critical Thinking:**

Graduates acquire the disciplinary knowledge of clinical competencies required to practice optometry and demonstrate foundational problem-solving and critical thinking skills.

**PLO-2 Application:**

Graduates demonstrate successful application of the didactic, laboratory, and clinical abilities that will allow them to competently examine, diagnose, treat, and manage patients within the field of optometry.

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**PLO-3 Communication:**

Graduates demonstrate effective oral and written communication skills that allow productive, effective, and respectful engagement with all patients, healthcare professionals and all individuals involved with patient care.

**PLO-4 Community Engagement and Service:**

Graduates show active engagement in optometric community service and demonstrate knowledge of underlying principles of service and understanding needs of diverse communities locally and globally.

**PLO-5 Equitable, Diverse, and Inclusive Perspectives:**

Graduates demonstrate knowledge of optometry's role in addressing individual, cultural and socioeconomic differences, including how equity, diversity, and inclusion can impact healthcare and other aspects of life.

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**1. Programme Outcomes for Core Courses (a)**

Sl. No	Programme Outcomes	DSC-1	DSC-2	DSC-3	DSC-4	DSC-5	DSC-6	DSC-7	DSC-8	DSC-9	DSC-10	DSC-11	DSC-12	DSC-13	DSC-14	DSC-15	DSC-16	DSC-17	DSC-18	DSC-19
1	Values for life and character building															✓				
2	Disciplinary knowledge	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Communication skills						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	
4	Critical thinking	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5	Problem Solving	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	Analytical Reasoning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7	Research related skills	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8	Cooperation/Teamwork	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
9	Scientific Reasoning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10	Reflective Thinking	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
11	Information/Digital Literacy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12	Self-directed Learning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
13	Moral and Ethical Awareness/Reasoning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
14	Leadership Readiness/Qualities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
15	Lifelong learning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
16	Professional Skills	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Legend: DSC-1: Geometrical Optics; DSC-2: Basics of General Anatomy & Physiology; DSC-3: Physical Optics; DSC-4: Ocular Anatomy & Physiology; DSC-5: Visual Optics; DSC-6: Medical pathology & Microbiology (general and ocular); DSC-7: Ophthalmic Instrumentation and procedure; DSC-8: Pharmacology ; DSC-9: Ophthalmic Lens & Dispensing optics; DSC-10: Clinical Refraction; DSC-11: Ocular Disease ; DSC-12:Low Vision Aids & Visual Rehabilitation ; DSC-13: Binocular Vision & orthoptics; DSC-14: Contact lens; DSC-15: Healthcare Counselling; DSC-16: Fundamentals of Clinical Research; DSC-17: Systemic Condition & the eye ; DSC-18: Community Optometry; DSC-19: Data Analytics.

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## SEM-1

## SEM-2

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	DSC	BOC 201 BOC 291	Physical Optics Physical Optics LAB	3	0	2	5
2.		BOC 202 BOC 202	Ocular Anatomy & Physiology Ocular Anatomy & Physiology LAB	3	0	2	5
3.	DSE		Any one from Minor Basket	3	0	0	3
4.	GE		Any one from GE Basket B/E	3	0	0	3
5.	AECC	AECC 201	Modern Indian Languages and Literature	2	0	0	2
6.	SEC	SEC 201	IT Skills	2	0	0	2
7.	VAC	VAC281A/B/ C/D	Critical Thinking NSS Mental Health Environmental Studies	0	0	2	2
Total Credit							22

### SEM-3

## SEM-4

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	DSC	BOC 401 BOC 491	Ophthalmic Instrumentation and procedure Ophthalmic Instrumentation LAB	3	0	2	5
2.		BOC 402	Pharmacology	3	1	0	4
3.		BOC 403	Ophthalmic Lens & Dispensing optics	3	1	0	4
4.	DSE		Any one from Minor Basket	3	1	0	4
5.			Any one from Minor Basket	3	1	0	4
6.	AECC	AECC401	Society Culture and Human Behavior	2	0	0	2
Total Credit							23

## SEM-5

## SEM-6

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	DSC	BOC 601 BOC 691	Low Vision Aids & Visual Rehabilitation Low Vision Aids LAB	3	0	2	5
2.		BOC 602 BOC 692	Binocular Vision & orthoptics Orthoptics LAB	3	0	2	5
3.		BOC 603 BOC 693	Contact lens Contact lens LAB	3	0	1	4
4.	DSE		Any one from Minor Basket	3	1	0	4
5.			Any one from Minor Basket	3	1	0	4
Total Credit							22

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## SEM-7

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	DSC	BOC 701	Healthcare Counseling	4	1	0	5
2.		BOC 702	Fundamentals of Clinical Research methods	4	1	0	5
3.		BOC 703	Systemic Condition & the eye	3	1	0	4
4.	DSE		Any one from Minor Basket	3	1	0	4
5.			Any one from Minor Basket	3	1	0	4
Total Credit							22

## SEM-8

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	DSC	BOC 801	Community Optometry	4	1	0	5
2.		BOC 802 BOC 892	Data Analytics Data Analytics LAB	3	0	2	5
4.	SEC	SEC881	Internship & Research Project/ Dissertation	0	0	12	12
Total Credit							22