



JOY UNIVERSITY  
semper paratus

## School of Arts and Natural Sciences

### Department of Physics B.Sc. Physics – I Semester

Sl.No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	BSPH 1101	Mechanics and General Properties of Materials	3	1	0	4	4
2.	BSPH 1102	Kinetic Theory of Gases and Thermodynamics - I	3	1	0	4	4
3.	BSPH 1103	Physics Lab - I	0	0	2	3	2
4.	BSMA 1101	Mathematics - I	3	1	0	4	4
5.	BTCS 1101	Computer Science - I	3	1	0	4	4
6.	BTCS 1102	Computer Science Lab - I	0	0	2	3	2
7.	BAEN 1101	Effective Communication	2	0	0	2	2
8.	* OE ####	Open Elective 1	2	1	0	3	3
		<b>TOTAL</b>	<b>16</b>	<b>5</b>	<b>4</b>	<b>27</b>	<b>25</b>

\* Open Elective course (3 credits) can be selected from any department

### B.Sc. Physics – II Semester

Sl.No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	BSPH 1201	Optics and Laser Physics	3	1	0	4	4
2.	BSPH 1202	Statistical Mechanics and Thermodynamics - II	3	1	0	4	4
3.	BSPH 1203	Physics Lab - II	0	0	2	3	2
4.	BSMA 1201	Mathematics - II	3	1	0	4	4
5.	BTCS 1201	Computer Science -II	3	1	0	4	4
6.	BTCS 1202	Computer Science Lab - II	0	0	2	3	2
7.	BAEN 1201	Environmental Science	2	0	0	2	2
8.	OE ####	Open Elective 2	2	1	0	3	3
		<b>TOTAL</b>	<b>16</b>	<b>5</b>	<b>4</b>	<b>27</b>	<b>25</b>

### B.Sc. Physics – III Semester

Sl.No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	BSPH 2301	Electrodynamics - I	3	1	0	4	4
2.	BSPH 2302	Foundation in Mathematical Physics	3	1	0	4	4
3.	BSPH 2303	Solid State Device	3	1	0	4	4
4.	BSPH 2304	Physics Lab - III	0	0	2	3	2
5.	BSMA 2301	Mathematics - III	3	1	0	4	4
6.	BTCS 2301	Computer Science -III	3	1	0	4	4
7.	BSPH 2305	Renewable Energy and Energy Harvesting	2	0	0	2	2
8.	OE ####	Open Elective 3	2	1	0	3	3
		<b>TOTAL</b>	<b>19</b>	<b>6</b>	<b>2</b>	<b>28</b>	<b>27</b>

### B.Sc. Physics – IV Semester

Sl.No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	BSPH 2401	Waves and Fluid Dynamics	3	1	0	4	4
2.	BSPH 2402	Special Theory of Relativity and Electrodynamics – II	3	1	0	4	4
3.	BSPH 2403	Solid State Physics - I	3	1	0	4	4
4.	BSPH 2304	Foundation in Quantum Mechanics	2	1	0	3	3
5.	BSPH 2404	Physics Lab - IV	0	0	2	3	2
6.	BSMA 2401	Mathematics - IV	3	1	0	4	4
7.	BTCS 2401	Computer Science -IV	3	1	0	4	4
8.	BSPH 2401	Radiation Safety	2	0	0	2	2
		<b>TOTAL</b>	<b>19</b>	<b>6</b>	<b>2</b>	<b>28</b>	<b>27</b>

### B.Sc. Physics – V Semester

Sl.No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	BSPH 3501	Foundation in Atomic and Molecular Physics	3	1	0	4	4
2.	BSPH 3502	Solid State Physics - II	3	1	0	4	4
3.	BSPH 3503	Physics Lab - V	0	0	2	3	2
4.	BSPH 35##	DSE 1	3	1	0	4	4
5.	BSPH 35##	DSE 2	3	1	0	4	4
		<b>TOTAL</b>	<b>12</b>	<b>4</b>	<b>2</b>	<b>19</b>	<b>18</b>

**List of DSE for the Semester:**

- (a) Experimental Condensed Matter Physics
- (b) Astronomy and astrophysics
- (c) Electromagnetic theory
- (d) Advanced Quantum Mechanics

### **B.Sc. Physics – VI Semester**

Sl.No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	BSPH 3601	Nuclear Physics and Elementary Particle Physics	3	1	0	4	4
2.	BSPH 36##	DSE 3	3	1	0	4	4
3.	BSPH 36##	DSE 4	3	1	0	4	4
4.	BSPH 3604	Project and Seminar	0	0	6	6	6
		<b>TOTAL</b>	<b>9</b>	<b>3</b>	<b>6</b>	<b>18</b>	<b>18</b>

#### **List of DSE for the Semester:**

- (a) Nanotechnology
- (b) Advanced Electronics (Digital and Analog Circuits)
- (c) Cosmology
- (d) Advanced Mathematical Physics

#### **Elective Courses**

Sl.No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1.	BSPH 3501	Experimental Condensed Matter Physics	3	1	0	4	4
2.	BSPH 3502	Astronomy and astrophysics	3	1	0	4	4
3.	BSPH 3503	Electromagnetic theory	3	1	0	4	4
4.	BSPH 3504	Advanced Quantum Mechanics	3	1	0	4	4
5.	BSPH 3601	Nanotechnology	3	1	0	4	4
6.	BSPH 3602	Advanced Electronics (Digital and Analog Circuits)	3	1	0	4	4
7.	BSPH 3603	Cosmology	3	1	0	4	4
8.	BSPH 3604	Advanced Mathematical Physics	3	1	0	4	4

#### **Semester-wise Credit Load**

<b>SI No.</b>	<b>Semester</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credits</b>
1.	I	16	5	4	25
2.	II	16	5	4	25
3.	III	19	6	2	27
4.	IV	19	6	2	27
5.	V	12	4	2	18
6.	VI	9	3	6	18
	<b>TOTAL</b>	<b>91</b>	<b>29</b>	<b>20</b>	<b>140</b>