

IPSE UG Students Enrolled in Fall 2010 through 2017

Summary Table of Changes in IPSE Group C Courses Offered by

Dept. of Applied Chemistry, Dept. of Life Science & Medical Bioscience, Dept. of Electrical Engineering & Bioscience, in School of Advanced Sci. & Eng.

For Fall 2017 course registration periods

* You need to earn credits of Group C courses provided as "elective" for your enrollment year. Please refer to column here below according to your enrollemnt year. Also check the relevant pages of your enrollment year's Handbook.

Curriculum for Students Enrolled in from Fall 2010 to Fall 2016/2017	Number of credits	Number of class hours per week (* a 90-minute long class (per week) is shown as 2 (hours) in the table below)								Current Course Availability by Your Enrollment Year	Note
		First year		Second year		Third year		Fourth year		O: available X: not available *: conditionally available (see Note section)	
		Fall sem.	Spring sem.	Fall sem.	Spring sem.	Fall sem.	Spring sem.	Fall sem.	Spring sem.	For students enrolled in from Fall 2010 to Fall 2016	
Graduation Thesis A	4							⊙		O (elective)	
Graduation Thesis B	4								⊙	O (elective)	
Pure and Applied Physics Seminar	2	2								O (elective)	* new course available from fall 2014; allocated to 1st year.
Green Materials Science	2	2								O (elective)	* new course available from fall 2011; allocated to 1st year.
Life Science and Medical Bioscience Seminar > Life Science and Medical Bioscience Seminar I	2	2				2				*	* course name changed from spring 2013. * those who have earned the credit of this course under the previous course name(s) cannot take it under the new name. * available only to students with Dept. of Life Science & Medical Bioscience from fall 2014. * originally allocated to fall semester of 3rd year, but from fall 2015, CHANGED TO fall semester of 1st year.
Exercises for Fundamental Physics-> Exercises for Fundamental Physics A	2		2							O (elective)	* new course available from spring 2014; allocated to 1st year. * course name changed from spring 2015.
Classical Physics A > Intermediate Mechanics	2			2						O (elective)	* course name changed from fall 2012. * those who have earned the credit of this course under the previous course name(s) cannot take it under the new name.
Mathematical Methods for Physics A	2			2						O (elective)	
Exercises for Fundamental Physics B	2			2						O (elective)	* new course available from fall 2015; allocated to 2nd year.
Inorganic Chemistry > Inorganic Chemistry A	2			2						O (elective)	* course name changed from fall 2014. * those who have earned the credit of this course under the previous course name(s) cannot take it under the new name.
Organic Chemistry > Organic Chemistry A	2			2						O (elective)	* course name changed from fall 2014. * those who have earned the credit of this course under the previous course name(s) cannot take it under the new name.
Introduction to Applied Chemistry	2			2						O (elective)	

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Fundamentals of Chemical Engineering	2			2						O (elective)	
Molecular Cell Biology A	2			2						O (elective)	
Physiology	2			2						O (elective)	* new course available from fall 2014; allocated to 2nd year. * not available for fall 2016.
Vector Analysis	2			2						*	* new course available from fall 2012; allocated to 2nd year. * only students enrolled in Fall 2010 & Fall 2011 can take this course. It will be classified as a Group C Elective". * for students enrolled in Fall 2012, Fall 2013, Fall 2014 & Fall 2015, this course replaced "Vector Calculus (fall, 2nd year)" classified as a Group B Required course from fall 2012.
Intermediate Electromagnetism	2			2						O (elective)	* new course available from fall 2012; allocated to 2nd year.
Thermal Physics A	2				2					X	* cancelled.
Classical Physics B > Quantum Mechanics A	2				2					O (elective)	* course name changed from spring 2013. * those who have earned the credit of this course under the previous course name(s) cannot take it under the new name.
Mathematical Methods for Physics B	2				2					O (elective)	
Thermal Physics	2				2					O (elective)	* new course available from spring 2012; allocated to 2nd year.
Materials Physics A	2				2					O (elective)	
Advanced Electromagnetism	2				2					O (elective)	* new course available from spring 2012; allocated to 2nd year.
Physical Chemistry > Physical Chemistry A	2				2					O (elective)	* course name changed from spring 2014. * those who have earned the credit of this course under the previous course name(s) cannot take it under the new name.
Biochemistry	2				2					O (elective)	
Inorganic Chemistry B	2				2					O (elective)	* new course available from spring 2014; allocated to 2nd year.
Organic Chemistry B	2				2					O (elective)	* new course available from spring 2016; allocated to 2nd year.
Introduction to Industrial Chemistry	2				2					O (elective)	
Life Science and Medical Bioscience Laboratory	6				12					*	* available only to students with Dept. of Life Science & Medical Bioscience from fall 2014.
Molecular Cell Biology B	2				2					O (elective)	
Bioscience and Nanotechnology > Bioscience and Biotechnology for Life Science	2				2 (intensive)					O (elective)	* new course available from spring 2012; allocated to 2nd year. * available for 2015 as an intensive course allocated to 2nd year. * course name changed from spring 2017.

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Neuroscience	2				2					O (elective)	* new course available from spring 2014; allocated to 2nd year.
Anatomy and Histology	2				2					O (elective)	* new course available from spring 2016; allocated to 2nd year.
Introduction to Computational Physics	2			2 (intensive)	2 (intensive)					O (elective)	* new course available from spring 2012; allocated to 2nd year. * intensive course. * originally allocated to fall semester of 2nd year, but from spring 2017, CHANGED TO spring semester of 2nd
Advanced Electrical Engineering	2				2					O (elective)	* new course available from spring 2014; allocated to 2nd year.
Electromagnetism for Electronics and Electrical Engineering	2				2					O (elective)	* new course available from spring 2015; allocated to 2nd year.
Thermal Physics B	2					2				X	* cancelled
Modern Physics A > Quantum Mechanics B	2					2				O (elective)	* originally allocated to fall semester of 2nd year, but from fall 2012, CHANGED TO fall semester of 3rd year. * course name changed from fall 2013. * those who have earned the credit of this course under the previous course name(s) cannot take it under the new name.
Modern Physics B > Relativity	2					2				O (elective)	* course name changed from spring 2013. * those who have earned the credit of this course under the previous course name(s) cannot take it under the new name.
Statistical Mechanics	2					2				O (elective)	* new course available from fall 2012; allocated to 3rd year.
Fluid Mechanics	2					2				O (elective)	* new course available from fall 2014; allocated to 3rd year.
Physical Chemistry Laboratory	3					6				O (elective)	
Physical Chemistry B	2					2				O (elective)	* new course available from fall 2014; allocated to 3rd year.
Fundamentals of Materials Chemistry	2					2				O (elective)	
Analytical Chemistry	2					2				O (elective)	
Field Work in Research Institutions and Industry	2					2 (intensive)				O (elective)	* available for 2015 as an intensive course allocated to 3rd year. * This course is limited for the students who have credits of all Chemistry subjects including "Fundamentals of Chemical Engineering", "Introduction to Industrial Chemistry", "Introduction to Applied Chemistry", "Organic Chemistry A ", "Organic Chemistry B ", "Inorganic Chemistry A", "Inorganic Chemistry B", "Physical Chemistry A" and "Biochemistry".
Intermediate Life Science and Medical Bioscience Laboratory	6					12				*	* new course available from fall 2013; allocated to 3rd year. * available only to students with Dept. of Life Science & Medical Bioscience from fall 2014.
Introduction to Medical Science	2					2 (intensive)				O (elective)	* new course available from fall 2014 as an intensive course; allocated to 3rd year.
Bioscience Practicals A	2					2				O (elective)	* new course available from fall 2016; allocated to 3rd year.

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Power Systems Engineering	2					2				O (elective)	* originally allocated to spring semester of 3rd year, but from fall 2012, CHANGED TO fall semester of 3rd year.
Advanced Electric Power Devices and Machines	2					2				O (elective)	* new course available from fall 2013; allocated to 3rd year.
Smart Grid and Frontiers in Electric Energy Systems	2					2				O (elective)	* new course available from fall 2013; allocated to 3rd year.
Physics of Semiconductor devices I	2					2				O (elective)	* new course available from fall 2014; allocated to 3rd year.
Introduction to Solid State Physics	2				2	2				X	* originally allocated to spring semester of 2nd year, but from fall 2012, CHANGED TO fall semester of 3rd year. * course cancelled from spring 2014.
Materials Physics B	2						2			O (elective)	
Physics-based Engineering A > Engineering Physics A	2						2			O (elective)	* course name changed from spring 2013. * those who have earned the credit of this course under the previous course name(s) cannot take it under the new name.
Biophysics A > Biological Physics A > Biological Physics	2						2			O (elective)	* course name changed from spring 2013. * those who have earned the credit of this course under the previous course name(s) cannot take it under the new name. * course name changed from spring 2017.
Inorganic Analytical Chemistry Laboratory ⇒ Inorganic and Analytical Chemistry Laboratory	3						6			O (elective)	* course name changed from fall 2015.
Organic Chemistry Laboratory	3						6			O (elective)	
Chemical Biology	2						2			O (elective)	* new course available from spring 2014; allocated to 3rd year.
Green and Sustainable Chemistry > Industrial Chemistry	2						2			O (elective)	* course name changed from spring 2013. * those who have earned the credit of this course under the previous course name(s) cannot take it under the new name.
Advanced Life Science and Medical Bioscience Laboratory	4						12			*	* new course available from spring 2014; allocated to 3rd year. * available only to students with Dept. of Life Science & Medical Bioscience from fall 2014.
Life Science and Medical Bioscience Seminar II	2						2			*	* new course available from spring 2014; allocated to 3rd year. * available only to students with Dept. of Life Science & Medical Bioscience.
Microbiology	2						2			O (elective)	* new course available from spring 2014; allocated to 3rd year.
Smart and Bioinspired Materials	2						2 (intensive)			O (elective)	* new course available from spring 2016; allocated to 3rd year. * intensive course.
Bioscience Practicals B	2						2			O (elective)	* new course available from spring 2016; allocated to 3rd year.
Intermediate Bioscience	2					2 (intensive) 2	2 (intensive) 2 (intensive)	2 (intensive)		O (elective)	* new course available from fall 2013 as an intensive course.; allocated to 3rd year. * originally allocated to fall semester of 3rd year, but from spring 2015, CHANGED TO intensive course (spring and fall) of 3rd to 4th year. * Not available for 2017

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Frontiers of Device Engineering	2						2 (intensive)			O (elective)	* intensive course
Mathematical Programming	2						2			O (elective)	* originally allocated to fall semester of 3rd year, but from spring 2013, CHANGED TO spring semester of 3rd year. * course will be cancelled from spring 2018.
Electric Power Circuits	2						2			O (elective)	* originally allocated to fall semester of 3rd year, but from spring 2013, CHANGED TO spring semester of 3rd year. * course will be cancelled from spring 2018.
Solar Cell Engineering	2						2			O (elective)	* new course available from fall 2013; allocated to 3rd year.
System Control > Control Systems	2						2			O (elective)	* new course available from spring 2013; allocated to 3rd year. * not available for spring 2017. * course name changed from spring 2017
On-line Security Assessment and Control for Power Systems	2						2			O (elective)	* new course available from spring 2014; allocated to 3rd year.
Physics of Semiconductor devices II	2						2			O (elective)	* new course available from spring 2014; allocated to 3rd year.
Semiconductor Device Physics	2						2			X	* course cancelled from spring 2014.
Engineering Physics B	2							2		O (elective)	* course name changed from fall 2013. * those who have earned the credit of this course under the previous course name(s) cannot take it under the new name.
Biological Physics B	2							2		O (elective)	* course name changed from fall 2013. * those who have earned the credit of this course under the previous course name(s) cannot take it under the new name. * course cancelled from spring 2017
Introduction to Chemistry and Biochemistry	2							2		X	* originally allocated to fall semester of 3rd year, but from fall 2012, CHANGED TO spring semester of 3rd year. * course cancelled from spring 2013 * replacement course is available: "General Chemistry B"(available from spr 2013) has the same content of the cancelled course. If you earn the credit of General Chemistry B, it is counted as a Group C elective. When you (4th or 3rd year, belonging to Sch of Advanced) register this course, you need to search it as a Group C specialized elective. When you (4th or 3rd year, belonging to Schs of Fundamental or Creative), search it with your home school chosen in 1st pull down, and "IPSE course offered by sub-programs other than home sub" chosen in 2nd pull down on the registration display.
Power System and Nuclear Power Generation Theory	2							2		O (elective)	* new course available from fall 2014; allocated to 4th year.