

Teaching Calendar (2017 – 2018 First Semester)

Course type	Compulsory	Course code	1805109		Course No.	01		
Course name	Plant Biology		Credit	3	College	College of Fisheries and Life Science		
Chief Instructor	SUN Zheng	Teaching chapters and sections	Chapters I to IV of Plant Biology Chapters I to III of Plant Physiology		Tel.	021-61900434		
Assistants	ZHOU Zhigang and BI Yanhui							
Time and place for answering questions		At 3:30—4:45 pm. every Tuesday, Room 408, Building B of College of Fisheries and Life Science						
Total hours	Time allocation				Class			
	Teaching or instruction	Experiment	Computer practice	Others	2017 Biology			
48	46							
Course construction	Excellent or key course					Bilingual		
	<input type="checkbox"/> National level <input checked="" type="checkbox"/> City Level <input type="checkbox"/> School level <input type="checkbox"/> Collage level					● Yes ○ No		
Nature of assessment	<input checked="" type="radio"/> Examination <input type="radio"/> Test		Form of assessment		<input type="radio"/> Open book <input checked="" type="radio"/> Closed-book <input type="radio"/> Paper <input type="radio"/> Others			
Result evaluation	Percentage of total results %		Percentage of usual performance %					
	End of Semester	Usual	Attendance	Assignment	Experiment	Practice	Discussion and test	Others
	60	40	70	30				
Result evaluation and study requirement description	The learning objective of this course is to systematically grasp the basic concept, basic principal, key physiological metabolism mechanisms and other theoretical knowledge and main research methods of plant biology to solve practical problems occurred in the production. Result evaluation should be subject to the teaching calendar.							
Textbook 1	Name	Plant Biology			Edited by	LU Shiwan, XU Xiangsheng, SHEN Minjian		
	Revision	Higher Education Press		Edition	Second Edition in 2011			
	Properties	● Unified compile ○ Self-compile ○ Reprint		<input type="checkbox"/> Recent three years <input type="checkbox"/> Excellent at national and provincial level <input checked="" type="checkbox"/> State planning				
	Reference	Stern's Introductory Plant Biology (12th Edition), by Bidlack JE, Jansky SH. 2013, McGraw-Hill.						

Textbook 2		Name	Plant Physiology		Edited by	PAN Ruichi
		Revision	Higher Education Press	Edition	Seventh Edition in 2012	
		Properties	<ul style="list-style-type: none"> ● Unified compile ○ Self-compile ○ Reprint 	<ul style="list-style-type: none"> □ Recent three years □ Excellent at national and provincial level ■ State planning 		
		Reference	Biochemistry & Molecular Biology of Plants (2nd Edition), by Buchanan BB, Grussem W, Jones R. 2015, Wiley Blackwell.			
Week	Day of the week	Hours	Main content and form of teaching		After-class assignments and reading	
3	Monday	2	Introduction; Cell is the basic units of plant body; Shape and size of cell; Structure of plant cell: cell nucleus			
4	Monday	2	National Day holiday			
4	Friday	2	Structures of plant cell: plastid, vacuole, cell wall and ergastic material		Different types of plastid in plant. Describe their mutual relation and the course of evolution with an example.	
5	Monday	2	Growth and differentiation of plant cell; Type of plant tissues: concept and meristem		What characteristic tissues of cactus and other succulent plant will form in the course of system evolution to ensure that they can withstand arid environment?	
6	Monday	2	Type of plant tissues: mature tissue and tissue system			
6	Friday	2	Structure and type of seed; Seedling types; Physiological function and use of root; Type of root and root system			
7	Monday	2	Development of root; primary structure of root		Why the cross section of root is circular? What are difference and similarities between primary and secondary structures of the root of the plant?	
8	Monday	2	Secondary growth and secondary structure of root; Physiological function and use of stem; Form of stem; Development of stem			
8	Friday	2	Primary structure of stem; Secondary growth and secondary structure of stem		The commonly-used circular cutting board is the cross section of stem. We find that it is easy to be cracked from the center of circle in the using process, why?	
9	Monday	2	Form, development, structure and physiological function of leaves		What is simple leaf? What is compound leaf? How to distinguish both kinds of leaf?	
10	Monday	2	Plant resources in fresh water and ocean; Phytoplankton and ecological system; Seaweed cultivation and breeding		What are key technologies used in the process of protonema cultivation and thallus breeding?	

10	Friday	2	Algal carotenoid; Grease; Fatty acid; Phycobiliprotein	How to obtain high-yield and high value algal compound? Which commonly-used verification methods are used?
11	Monday	2	Moisture demand of plant; Moisture absorption of plant cell	What are relations of plant cell's water potential with osmotic potential and pressure potential?
12	Monday	2	Moisture absorption of plant root system; Transpiration	
12	Friday	2	Moisture transportation inside plant body; Physiological basis of correct irrigation	
13	Monday	2	Chloroplast and chloroplast pigment; Photosynthetic mechanism; Primary reaction and electron transfer	Why photosynthetic pigments can turn light energy into electric energy?
14	Monday	2	Photosynthetic mechanism: photosynthetic phosphorylation, carbon assimilation	What is the mechanism of photosynthetic phosphorylation?
14	Friday	2	Photosynthetic mechanism: carbon assimilation, products of photosynthesis	
15	Monday	2	Light respiration; Factors affecting photosynthesis	
16	Monday	2	Light utilization by plant; Mineral elements required by plant	
16	Friday	2	Absorption of mineral elements by plant cell; Transportation and distribution of mineral elements inside plant body	
17	Monday	2	New Year's Day holiday	
18	Monday	2	Nitrogen, sulfur and phosphorus assimilation of plant; Physiological basis of rational fertilization	How to assimilate NO ₃ -absorbed by plant into glutamine, glutamic acid, aspartic acid and asparaginate?
18	Friday	2	Review and Answering Questions	

- Note:**
- This table (electronic) is submitted to the college within the preparation week of each semester, and meanwhile uploaded to URP teaching affair administration system for reference by students to select courses.
 - The preparer can continue pages and freely adjust row height at the time of filling, but should not change column width and other forms.

Revised in November 2016