Training Program of Landscape Architecture

I. Specialty introduction

The specialty of Landscape Architecture of Shanghai Jiao Tong University was established in 1980 and became mature after merged with Shanghai Jiao Tong University. This specialty is a comprehensive subject including space creation theory, theory of landscape ecology and landscape aesthetics theory developed by organic integration of such subjects as artistic design, architecture, biology, botany, biology, environmental sciences and humanistic sociology. This specialty is targeted to cultivate higher-level innovative talents with value orientation of environmental ethics, multidisciplinary knowledge hierarchy and ecology- and culture-based planning and design skills.

II. Training objectives and specifications

This specialty is aimed to help students acquire comprehensive knowledge of humanities & social sciences, artistic design, ecological environment, landscape design and engineering technology, learn the development trend of the sector, develop innovation consciousness and international competitiveness, adapt to the demands of social economy and landscape architecture industry and become inter-disciplinary, senior and professional talents competent to be engaged in planning and design of various green lands, landscape engineering operation and management, garden plant cultivation and operation in such relevant enterprises, public institutions and governmental departments of urban and rural planning, landscape planning, environmental protection and landscape plant resource development and employment. In short, this specialty is to cultivate potential leaders for the landscape industry in the future and excellent engineers in the engineering field.

The training program of this sector is to cultivate "inter-disciplinary, professional and international talents". Cultivation of inter-disciplinary talents is a characteristic of multi-crossed disciplines of our university and in particular, the comprehensive application of knowledge of such humanities & social sciences and
engineering sciences as humanity and art, sociology, environmental ecology, biology
and architecture in landscape planning and design and engineering management
practice can help students strengthen the multidisciplinary theoretical basis of students.
Cultivation of professional talents means cultivation of landscape architecture
planning designers, engineers and horticulturists in compliance with the professional
standards to be engaged in design of indoor space and home gardening, and even
ecological civilization construction of scenic spots and nature protection areas and
planning and construction of new-type urbanization. Cultivation of international
students means cultivation of students' communication and exchange, comprehensive
abilities and international view based on the talent training objectives of landscape
specialty of internationally top universities and mid- and long-term positioning of the
subject and also in combination with China's national conditions and characteristics of
our university.

III. Specifications and requirements

The specialty of Horticulture follows the flexible educational system and
4-6-year education system, in which students are permitted to graduate in advance
after gaining at least 176 credits as required and also to extend the length of schooling
for six years at most in general. Students will be awarded the bachelor's degree of
agronomy in accordance with the Regulations for Academic Degrees of the People's
Republic of China after completing the courses and teaching practice as required in
the training program of the profession, acquiring the required credits and passing the
moral, intelligence and physical examinations.

A Knowledge structure

A1 Basic knowledge of literature, history, philosophy ad art, etc.-students are
required to achieve further improvement on the basis of knowledge level fulfilled in
basic education.

A2 Rudiments of research methods of social science discipline-students are
allowed to learn the research methods of the discipline rather than learn simplified
and relatively complete discipline outline or common knowledge through certain
segment of a certain discipline after temporary academic exploration.

A3 Basic knowledge and cutting-edge knowledge of Sciences and Engineering—such knowledge should be closely related to the society and personal life and will be favorable for improving students' scientific literacy and engineering consciousness.

A4 Basic knowledge of mathematics and logistics—on the basis of basic education, students' quantitative analysis and logical thinking ability will be further improved.

A5.1 Master the basic theory, basic knowledge and basic skills of such subjects as humanity and art, design fundamental and bioscience required by the specialty.

A5.1.1 Learn and understand such relevant knowledge as humanity and art, planning and design and ecological environment required for study of follow-up specialty.

A5.1.2 Master the basic skills of applying landscape plant, landscape ecology, design fundamentals, landscape planning and design as well as landscape engineering in landscape science and the relevant subjects and sectors.

A5.1.3 Master the basic methodology of landscape planning and design and landscape engineering construction (research).

A5.2 Completely master the knowledge hierarchy of Landscape Architecture and correctly understand the importance thereof in facilitating human settlement environmental construction in urban and rural areas and progress of human civilization and also the development potential.

A5.2.1 Master the knowledge hierarchy of Landscape Architecture, including Descriptive Geometry and Shadow and Perspective, Sketch, Botany, Ecology, Phytophysiology, Color, Landscape Art, Landscape Graphics (Class A), Three Components, Preliminary Design, History of Landscape Architecture, Fundamentals of City Planning, Landscape Dendrology, Floriculture, Landscape Architecture Planning and Design, Landscape Architecture, Landscape Engineering, Soil and Plant Nutrition, Landscape Planting Arrangement, Metrology, Biostatistics and Experiment Design, Design Thinking, Prompt Expression of Landscape Architecture, Ecological Planning and Design Principles, Landscape Materials Science, Lawn and Ground
A5.2.2 Master necessary practical skills and ability and relevant research and analytical methods of planning, design and engineering construction of Landscape Architecture.

**B Capacity requirements**

B1 Clearing thinking and ability of accurate expression by languages and words
B2 Ability to discover, analyze and address problems.
B3 Critical thinking and ability of creative work
B4 Ability to cooperate with different types of persons
B5 Preliminary aesthetic ability of literary and artistic works
B6 Application ability of at least one foreign language
B7 Ability of lifelong learning
B8 Organization and management ability
B9 Ability of skillfully applying modern media technology to acquire scientific research information, including English information.
B10 Systematically master the basic methods and skills of landscape humanity and art, landscape planning and design, landscape engineering construction and one and even several majors. Be able to complete planning and design and engineering management research of various kinds of landscapes independently. Be able to conclude, summarize and analyze research results, to prepare academic paper and take part in academic exchange.

**C Qualification requirements**

C1 Ambitious and strong-minded--take cultural inheritance, truth pursuit, China's rejuvenation and human's welfare as self-mission and be persistent.
C2 Diligent, practical and aggressive--be down-to-earth and do not love vanity. Be diligent and arduous and pursue for excellence.
C3 Physical and mental harmony and extensive vision-have sound physical and mental quality. Have a tolerant attitude for diversified cultures and broad international
vision.

C4 Quick-witted and creative—be diligent in thinking, adept in research, have keen interest in creation, be adventurous and be skillful in problem solving.

C5 Have sound psychological quality, be able to grasp opportunities, be courageous to counter difficulties and failure;

C6 Have sound professional ethics;

C7 Have comprehensive quality of extensive background subject knowledge.

IV. Composition of curriculum system and allocation proportion of credit hours

The graduate curriculum system of this specialty is composed of general education courses, major education courses, basic discipline courses, practice education courses and personalized education courses.

<table>
<thead>
<tr>
<th>Course class</th>
<th>Course subclass</th>
<th>Credit</th>
<th>Total credit hours</th>
<th>Prelect</th>
<th>Test and practic</th>
<th>Computer operati</th>
</tr>
</thead>
<tbody>
<tr>
<td>General education courses</td>
<td>Common required course</td>
<td>25</td>
<td>496</td>
<td>416</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Core general education course</td>
<td>12</td>
<td>192</td>
<td>192</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>General education practice</td>
<td>2</td>
<td>32</td>
<td></td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Major education course</td>
<td>General foundation course</td>
<td>28</td>
<td>448</td>
<td>448</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subject fundamentals</td>
<td>31</td>
<td>496</td>
<td>398</td>
<td>98</td>
<td></td>
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<tr>
<td></td>
<td>Professional course</td>
<td>32.5</td>
<td>528</td>
<td>352</td>
<td>160</td>
<td>16</td>
</tr>
<tr>
<td>Practice education course</td>
<td>Various experimental</td>
<td>16.5</td>
<td>528</td>
<td>16</td>
<td>512</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Various practice course</td>
<td>6</td>
<td>192</td>
<td></td>
<td>192</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Military training</td>
<td>3</td>
<td>48</td>
<td></td>
<td>48</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graduation thesis/project</td>
<td>10</td>
<td>512</td>
<td></td>
<td>512</td>
<td></td>
</tr>
<tr>
<td>Personalized education course</td>
<td></td>
<td>10</td>
<td>160</td>
<td>160</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### V. Arrangement of extracurricular practice teaching activities

In addition to 786 credit hours of teaching experiment (including computer operation) and 32 credits in the practice teaching link of this specialty, the extracurricular practice teaching also includes:

<table>
<thead>
<tr>
<th>Class of extracurricular practice teaching</th>
<th>Credit</th>
<th>Number of weeks</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extracurricular practice of general fundamental courses in general education</td>
<td>5</td>
<td>3</td>
<td>96 academic hours of extracurricular practice will be arranged for &quot;Marxist theory and ideological and political education courses&quot;.</td>
</tr>
<tr>
<td>General education practice</td>
<td>2</td>
<td>2</td>
<td>Summer vacation time in the first academic year</td>
</tr>
<tr>
<td>Military training</td>
<td>3</td>
<td>3</td>
<td>Summer vacation time in the first academic year</td>
</tr>
<tr>
<td>Engineering practice (Class B)</td>
<td>2</td>
<td>2</td>
<td>The third semester</td>
</tr>
<tr>
<td>Innovation practice project</td>
<td>2</td>
<td>2</td>
<td>Graduate students are required to take part in such innovation practice programs as PRP, IPP and Nongyao Program and to acquire 2 credits at least.</td>
</tr>
<tr>
<td>Specialty practice</td>
<td>2</td>
<td>2</td>
<td>Summer vacation time in the third academic year</td>
</tr>
<tr>
<td>Graduation thesis (project)</td>
<td>10</td>
<td>16</td>
<td>2 credits are required for the second and third years and oral defense will be arranged in the 8th semester with 10</td>
</tr>
<tr>
<td>Total credits required</td>
<td>26</td>
<td>30</td>
<td>Experiment teaching is excluded</td>
</tr>
</tbody>
</table>

### VI. Main course of the specialty
Main courses of this specialty include Descriptive Geometry and Shadow and Perspective, Sketch, Botany, Ecology, Phytophysiology, Color, Landscape Art, Landscape Graphics (Class A), Three Components, Preliminary Design, History of Landscape Architecture, Fundamentals of City Planning, Landscape Dendrology, Floriculture, Landscape Architecture Planning and Design, Landscape Architecture, Landscape Engineering, Soil and Plant Nutrition, Landscape Planting Arrangement, Metrology, Biostatistics and Experiment Design, etc.

VII. Specific information of curriculum provision

(1) Core courses of general education

The optional courses of general education are all defined by the school and divided into such models as human science, social science, natural science, engineering science and technology (please refer to Optional Courses of General Education of Shanghai Jiao Tong University). Students are required to acquire 12 credits and 2 in each class of courses. Taking courses with the same or similar contents and property with the major courses is not permitted.

(2) Basic courses

Basic courses are required courses, including general subject courses and professional basic courses.

General subject courses include Inorganic and Analytical Chemistry (Class B), Organic Chemistry, Programming Design Fundamental (C++), Advanced Mathematics (Class B), Linear Algebra (Class B), Probability Statistics (Class B) and University Physics (Class C).

Professional basic courses include Descriptive Geometry and Shadow and Perspective, Sketch, Botany, Ecology, Color, Landscape Art, Landscape Graphics (Class A), Three Components, Preliminary Design, History of Landscape Architecture, Phytophysiology, Fundamentals of City Planning and Soil and Plant Nutrition.

(3) Required courses of the specialty

Required courses of the specialty include Landscape Dendrology, Floriculture, Landscape Architecture Planning and Design (1), Landscape Architecture, Landscape
Engineering, Landscape Planting Arrangement, Metrology and Biostatistics and Experiment Design.

(4) Optional courses of the specialty

Optional courses of the specialty (comprehensive class) include Design Thinking, Prompt Expression of Landscape Architecture, Ecological Planning and Design Principles, Landscape Materials Science, Lawn and Ground Cover Application, Landscape Architecture Planning and Design 3, Science of Landscape Tree Cultivation, Urban Green Space System Planning, Genetics, Introduction To Plant Protection and Plant Thremmatology.

(5) Personalized education courses

Personalized education courses are optional for students and students involved are required to acquire 10 credits after completion. Credits will be acquired after completion of all courses required except for those acquired from required and optional courses in general education courses, major education course and practice education course of the specialty's training program, such as credits from the second major, optional courses, additional credits after the satisfactory completion of the restrictive modules of the specialty, specialty optional courses of certain major without credit requirements, College Basic English (3) and (4) and other recognized credits.

VIII. Graduate-postgraduate-doctor continuous study courses and international courses

<table>
<thead>
<tr>
<th>Course title</th>
<th>Teaching language</th>
<th>Credit</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology</td>
<td>Graduate-postgraduate</td>
<td>Chinese</td>
<td>2</td>
</tr>
<tr>
<td>Soil and Plant Nutrition</td>
<td>continuous study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landscape Planting Arrangement</td>
<td>Graduate-postgraduate</td>
<td>Chinese</td>
<td>2</td>
</tr>
<tr>
<td>Landscape Architecture Planning and</td>
<td>continuous study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design 2</td>
<td>Graduate-postgraduate</td>
<td>Chinese</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>continuous study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landscape Architecture Planning and Design 3</td>
<td>Graduate-postgraduate continuous study</td>
<td>Chinese</td>
<td>3</td>
</tr>
</tbody>
</table>