Curriculum Standard
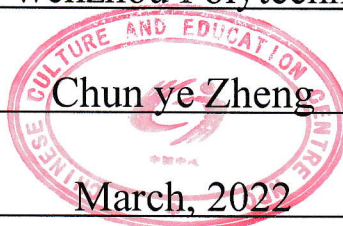
Curriculum: <u>3dmax2020 Basic Introduction</u>

Major: <u>Environmental Art Design</u>

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"3dmax2020 Basic Introduction"Curriculum Standards

Course Name: 3dmax2020 Basic Introduction

Credits: 4.5

Scheduled hours: 88

Applicable majors: Environmental art design, interior design technology, architectural decoration design and other related majors,

1. Preface
1.1 Position definition

This course is the core course of environmental art design major, which is a close combination of theory and practice.Used for interior and outdoor environment art design renderings production. students are required to master the main functions and characteristics of 3DS MAX and Vray , learn the use methods and skills of software, and cultivate students' ability to solve practical problems in engineering. They can choose viewpoints from different angles of the environment, and can quickly and intuitively express the modeling characteristics of environmental landscape, indoor space environment, material and color, etc.

1.2 Design ideas

This course involves: basic modeling, material performance, scene setting, post-processing, and instance production.

Overall design idea of the standard:

The teaching form is the combination of lecture and practice.Emphasize the skilled operation ability of the software, the accuracy of the renderings production and the speed of the computer operation.

In the teaching process, pay attention to the students' actual operation ability, and pay attention to the environmental landscape, residential, shared space, restaurant and other rooms. In the primary stage, we can copy good works, and in the later stage, make the corresponding effect drawing according to their own design and construction drawings.

The curriculum standard is employment-oriented, according to the industry experts of the post tasks and vocational ability involved in the analysis of the actual project operation needs of the enterprise.Vocational jobs involved in the work process of this course teaching activities design into several projects, project organization teaching, with typical cases as the carrier, leads to the relevant professional theoretical

knowledge, make the students in the project practice to deepen the understanding and application of professional knowledge and skills, and to cultivate students 'comprehensive professional ability, meet the needs of students' career development.

2. Course objectives

2.1 Overall objectives

Through environmental art design post task decomposition, multiple project practice, master environmental art design skills and related theoretical knowledge, in the professional related tasks, cultivate integrity, hard, good at communication and cooperation quality, set up the comprehensive, collaboration and unity consciousness, lay a good foundation for the development of professional ability.

Let the students master the basic professional knowledge and technology of 3dmax2020, master the space model establishment, material mapping, camera and light creation, as well as rendering output, Photoshop post-processing, can design and make a complete decorative renderings.

2.2 Specific objectives

2.2.1 Knowledge objectives

(1) 3DS MAX basic knowledge, from 2 D shape to 3 D modeling, lofting (loft) modeling, 3 D modeling and editing and modification;

(2) VRay material and map; camera, lighting, and rendering;

(3) P hotoshop post-stage image processing ability;

(4) Example of the rendering drawing production

2.2.2 Ability Objectives

(1) Familiar with the interior design effect performance, design methods and thinking;

(2) Familiar with the structure, materials, equipment and other highly technical professional content;

(3) Familiar with computer space simulation, lighting and lighting;

(4) Cultivate the appreciation ability and aesthetic ability.

2.2.3 Quality objectives

(1) Conduct professional cognition and professional inquiry;

(2) Cultivate students' ability to collect materials, read materials and use materials;

(3) Cultivate students' self-study ability, learn to design and innovate, and improve aesthetic awareness;

3. Course content and requirements

order number	teaching task	Course content and teaching requirements	instructional design	Reference class hours
1	Standard basic body modeling	(1) Knowledge content and requirements: ① understands the indoor renderings ② to master the 3DS max basic tool operation (2) Skill content and requirements: The ① has 3DS MAX basic tool application capabilities	(1) Teaching methods ① lecture √ ② lecture and training combination ③ case analysis ④ discuss ⑤ Practical Training √ (2) Practice project: wooden square stool making	2
1	Standard basic body modeling	(1) Knowledge content and requirements: ① understands basic geometry modeling methods ② master movement, rotation, mirror, alignment commands. (2) Skill content and requirements: ① has the ability of establishing various basic models and setting model parameters	(1) Teaching methods ① lecture √ ② lecture and training combination ③ case analysis ④ discuss ⑤ Practical Training √ (2) Practical items: sofa making, large class chair making, desk making, double bed making, and other expansion design	10
2.	2 D and AEC extension modeling	(1) Knowledge content and requirements: ① understands from 2 D shape to 3 D modeling, AEC extension. ② master from 2 D to 3 D modeling, lofting (loft) modeling, AEC modeling and editing modification (2) Skill content and requirements: The ① has 2-dimensional modeling capabilities.	(1) Teaching methods ① lecture √ ② lecture and training combination ③ case analysis ④ discuss ⑤ Practical Training √ (2) Practice items: wine bottles, wine glasses, apple, eggs, wall, doors and Windows, other expanded design (curtains, dining tables, etc.)	16
3.	Edit modifications and camera settings	(1) Knowledge content and requirements: ① understands the use of common modifiers (modify command panels) to create	(1) Teaching methods ① lecture √ ② lecture and training combination ③ case analysis	8

		composite objects. ② to master the method of indoor interface modeling (2) Skill content and requirements: The ① has the ability to reasonably apply the modification tools according to the design requirements ② is able to use camera parameters according to design requirements.	④ discuss ⑤ Practical Training √ (2) Practical items: production of indoor interface (wall, ceiling, ground), production of decorative components (kicking, decorative lines), establishment of camera scene, and other expanded design and production.	
4.	Material editing	(1) Knowledge content and requirements: ① understands the principles of materials, maps, and map coordinates. ② master the detailed parameters of the material editor (2) Skill content and requirements: ① has the basic capability of VRAY material editing, and can use material parameters according to design requirements.	(1) Teaching methods ① lecture √ ② lecture and training combination ③ case analysis √ ④ discuss ⑤ Practical Training √ (2) Practical items: wood, wallpaper, latex paint material production, carpet, metal, cloth material production, stone, wood floor, glass, water material production, other expanded design and production	12
5.	Light use	(1) Knowledge content and requirements: ① understands the use of target spotlight, flood light, point light, line light, surface light, and optical area networks. ② to master the use of vray lighting. (2) Skill content and requirements: The ① has the ability to reasonably use the light parameters according to the design requirements.	(1) Teaching methods ① lecture √ ② lecture and training combination ③ case analysis √ ④ discuss √ ⑤ Practical Training √ ⑥ other:_____ (2) Practice projects Outdoor day scene effect production, outdoor night scene effect production, a variety of lighting combination production	8
6.	Render output	(1) Knowledge content and requirements: ① Learn About the V ray Rendering Panel ② to master the V ray rendering parameter settings (2) Skill content and	(1) Teaching methods ① lecture √ ② lecture and training combination ③ case analysis √ ④ discuss √ ⑤ Practical Training √	4

		requirements: The ① has the setting and output capability of rendering the renderings	⑥ other:_____ (2) Practice projects Living room renderings rendering and post-processing, bedroom renderings rendering and post-processing, dining room renderings rendering and post-processing	
7	after-treatment	(1) Knowledge content and requirements: ① understand ps panel ② master the ps tool use (2) Skill content and requirements: ① renderings for post-processing capability	(1) Teaching methods ① lecture √ ② lecture and training combination ③ case analysis √ ④ discuss √ ⑤ Practical Training √ (2) Practice projects Living room post-processing, bedroom renderings post-processing, dining-room renderings post-processing	8
8	comprehensive practice	(1) Knowledge content and requirements: ① understands the public assembly modeling methods ② to master the setting of public assembly rendering parameters (2) Skill content and requirements: ① has the setting and output capability of rendering of public renderings	(1) Teaching methods ① lecture √ ② lecture and training combination ③ case analysis √ ④ discuss √ ⑤ Practical Training √ (2) Practice projects 3dmax2020 foundation Introduction	20
Total class hours				88

4. Implementation suggestions

4.1 Suggestions on the selection and compilation of textbooks

(1) The teaching materials must be compiled according to the curriculum standards, and the teaching materials should fully reflect the task-led and practice-oriented curriculum design ideas.

(2) The professional vocational activities should be decomposed into several typical work projects, and the teaching materials should be organized according to the needs of the completed work projects and the post work procedures, and combined with the requirements of the vocational level examination.Through

typical indoor engineering projects, to introduce the necessary theoretical knowledge, strengthen the operation training, and emphasize the application of theory in the practice process.

(3) The teaching materials should be combined with pictures and charts to improve students 'learning intuition and initiative, and deepen students' understanding and understanding of computer renderings.The expression of textbooks must be refined, accurate and scientific.

(4) The content of the teaching material should reflect the advanced nature, universality and practicability, and the new technology, new process and new equipment of the major should be included in the teaching material in time, so as to make the teaching material more close to the development and actual needs of the major.

(5) The design content of the activities in the textbook should be specific and operable.

4.2 Teaching Suggestions

(1) In the teaching process, we should be based on strengthening the cultivation of students 'practical operation ability, use project teaching, improve students' interest in learning, and stimulate students' sense of achievement.

(2) The key to this course teaching is to take specific indoor engineering projects as the carrier.In the teaching process, teachers demonstrate and students 'operation and training interact, and students' questions and teachers' answers and guidance are organically combined, so that students can learn to make computer renderings in the process of project practice.

(3) In the teaching process, to create a working situation, to closely combine the requirements of professional level examination, strengthen the practical operation training.In the operation training, make the students master the level of computer rendering production, improve the students' ability to adapt to the post.

(4) In the teaching process, we should combine examples to explain to help students understand.

(5) In the teaching process, we should pay attention to the development trend of new technologies, new processes and new equipment in the professional field, and get close to the job.To provide students with career development space, and strive to cultivate students' innovative spirit and professional ability.

(6) In the teaching process, teachers should actively guide students to improve their professional quality and improve their professional ethics.

(7) Overall teaching ideas:

A. From explaining the color composition, plane composition and indoor composition, to understanding the performance process of indoor rendering;

B. Explain the indoor material and lighting of 3d Max, the indoor common texture performance, lighting foundation, lighting array technology, and the process and method of the overall indoor lighting;

C. Explain VRay indoor rendering technology foundation, VRay practical parameters detailed explanation, VRay lighting foundation, VRay material and map, VRay physical camera, etc.;

D. Explain and master the analysis of the scene and lighting ideas, determine the picture composition, optimize the Settings, initially adjust the scene material, set the scene lights, comprehensively adjust the light and material, rendering and output Settings;

E. Explain the effect performance under different lights, and learn through (evening light performance, night light performance, early morning light performance, daylight and daylight performance);

F. After explaining the rendering output through examples, post renderings, modify and adjust the later stage with the channel in the photoshop software.

4.3 Suggestions for teaching assessment and evaluation

(1) Reform the traditional student evaluation means and methods, and adopt the integrated evaluation mode of stage evaluation, target evaluation, project evaluation, theory and practice.

(2) Pay attention to the diversity of evaluation, and comprehensively evaluate students' scores based on classroom questions, student homework, peacetime tests, experiment and practical training, skill competition and examination.

(3) Attention should be paid to the assessment of students 'practical ability and their ability to analyze and solve problems in practice, and special encouragement should be given to students with innovation in learning and application, and students' ability should be comprehensively evaluated.

(4) Be able to use the powerful functions of 3DMAX and vray renderer, to realize the indoor environment modeling to rendering, and master the vray base item parameters to get the effect in different environments;

(5) Ability to understand the basic requirements of indoor rendering, the reasonable location of doors and Windows, the placement of indoor objects, and the indoor basic color matching method;

(6) Can skillfully show the setting methods and parameters of different materials setting, as well as the application of comprehensive lighting, and skillfully show the real texture of the object;

4.4 Development and utilization of course resources

(1) Pay attention to the development and application of experimental training instructions and

experimental training materials.

(2) Pay attention to the development and utilization of curriculum resources and modern teaching resources, which are conducive to the creation of vivid working situations, stimulate students 'interest in learning, and promote students' understanding and mastery of knowledge.At the same time, it is suggested to strengthen the development of curriculum resources, establish a database of multimedia curriculum resources, and strive to realize the sharing of multimedia resources across schools, so as to improve the efficiency of curriculum resources utilization.

(3) Actively develop and utilize network curriculum resources, make full use of network information resources, database, database, digital library, educational website and electronic forum, change teaching from single media to multiple media; teaching activities from one-way information transmission to two-way exchange; students from separate learning to cooperative learning.At the same time, we should actively create conditions to build a distance teaching platform and expand the interactive space of curriculum resources.

(4) Industry and science cooperation to develop experimental and training course resources, make full use of typical enterprise resources in the industry, strengthen industry and science cooperation, establish practice and training base, practice work and study alternately, meet students 'practice and training needs, and create opportunities for students' employment.

(5) Establish the major and open the training center, so that it can have the functions of on-site teaching, experimental training and vocational skills research, realize the integration of teaching and training, teaching and training, teaching and research, and meet the requirements of students' comprehensive vocational ability training.

4.5 Suggestions on allocating teaching conditions

(1) Pay attention to the construction of practical training environment for situational computer computer effect production, including the application of hardware scene environment and related engineering drawing case database.

(2) Pay attention to the development and utilization of curriculum resources and modern teaching resources, actively develop and use the curriculum resources of the national vocational education teaching environment and art design teaching resources database, stimulate students 'interest in learning, so that students' learning is no longer limited to the classroom, and promote students' understanding and mastery of knowledge.

(3) Industry-study cooperation to develop training course resources, make full use of typical enterprise resources in the industry, strengthen industry-science cooperation, establish practice and training base, practice and study alternation, meet students 'practice and training needs, and create opportunities for students' employment.

4.6 Other instructions

Other descriptions are written by yourself according to the major and course conditions.