本科课程教学大纲（理论课）

一、课程基本信息

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| 课程名称 | （中文）人工智能与创意艺术 | | | | | |
| （英文）Artificial Intelligence & Creative Arts | | | | | |
| 课程代码 | 2040450 | 课程学分 | | 1 | | |
| 课程学时 | 16 | 理论学时 | 6 | 实践学时 | | 10 |
| 开课学院 | College of Art Design | 适用专业与年级 | | Freshman in Digital Media Arts | | |
| 课程类别与性质 | Required Foundation Course | 考核方式 | | Examine | | |
| 选用教材 | AIGC从入门到实战 | | | 是否为  马工程教材 | |  |
| 先修课程 | None | | | | | |
| 课程简介 | Course Overview:  "Artificial Intelligence and Creative Arts" explores the application of artificial intelligence (AI) technologies in the field of creative arts. Through systematic learning, students will master how to use advanced AI software and tools for creative expression and design. This course covers all aspects from prompt writing to complex image generation, helping students achieve breakthroughs in artistic creation.  Course Content:​​  1. Prompt Writing & AI Generation Basics: Learn how to write effective prompts to guide AI in generating high-quality creative content. Understand various prompt writing techniques to improve the accuracy and creativity of the generated results.  2. Using Midjourney for Image Generation: Master the use of the Midjourney platform for text-to-image and image-to-image creation. Practice using Midjourney's various advanced features to achieve unique artistic effects.  3. Stable Diffusion Sampler Principles & Application: Deeply understand the working principles of the Stable Diffusion sampler. Learn how to use Stable Diffusion to complete high-quality text-to-image and image-to-image tasks.  4. Advanced Applications: ControlNet & ComfyUI: Master ControlNet technology for advanced image generation.  5. Master the basic principles of Stable Diffudion and its application in artistic creation.​​  6. Artistic Style Drawing:​Use Midjourney and Stable Diffusion together to complete image creation in different artistic styles. Conduct practical exercises to generate artworks in various styles.  7. Anime Character Design: Utilize AI tools for anime character design, from concept to detail refinement. Explore design methods for different character styles to enhance the uniqueness of the work.  8. Architectural Scene Design: Utilize AI for virtual architecture and scene design and creation. Learn how to achieve creative expression of architectural spaces through AI technology.  9. Film-level Poster Design: Use AI to generate high-quality film posters. Practice poster design to improve visual impact and artistic expression.  10. Comprehensive Visual Design Application: Synthesize learned techniques to carry out a series of visual design projects. Complete the creative process from concept to final work, showcasing unique creativity and design ability.  Learning Objectives:​​  - Master application methods of AI in creative arts.  - Become proficient in using various AI tools for high-quality image generation and design.  - Enhance students' creative expression ability and strengthen their competitiveness in the field of art and design. | | | | | |
| 选课建议与学习要求 | Possess a certain level of self-learning ability and English foundation, and have aesthetic appreciation skills. | | | | | |
| 大纲编写人 | 39128da2d609e0e043e9b5903161a34 | | 制/修订时间 | | 2024.6 | |
| 专业负责人 |  | | 审定时间 | | 2024.6 | |
| 学院负责人 | 20031565468528520 | | 批准时间 | | 2024.6 | |

二、课程目标与毕业要求

（一）课程目标

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| 类型 | 序号 | 内容 |
| 知识目标 | 1 | Master AI fundamental theories, understand basic concepts and principles of artificial intelligence and its applications in the arts. Learn the working mechanisms of AI technologies such as Midjourney and Stable Diffusion. |
| 2 | AI Tool Usage Skills: Proficiently use Midjourney, Stable Diffusion. Master techniques for writing effective prompts and their application in AI image generation. |
|  | 3 | Interdisciplinary Knowledge: Integrate knowledge from art and design, computer science, and data processing. Understand design theories for different fields such as artistic styles, anime design, architectural scenes, and film posters. |
| 技能目标 | 4 | Technical Application Ability: Able to practically operate and use various AI tools for creation. Proficiently master the generation process for both text-to-image and image-to-image. |
| 5 | Creative Expression Ability: Use AI technology to create art in various styles, enhancing the uniqueness and innovation of design works. Design and create high-quality anime characters, architectural scenes, and film poster works. |
| 素养目标  (含课程思政目标) | 6 | Ethics & Responsibility Awareness: Understand ethical issues in AI art creation, such as copyright, data privacy, and attribution of responsibility for AI-generated content. Cultivate students' sense of social responsibility when using AI technology, ensuring the creation process and results comply with ethical standards and legal requirements. |
| 7 | Cultural Identity & Inheritance: Promote and inherit excellent cultural and artistic traditions, combining them with modern technology for creative expression. Cultivate a sense of identity with local culture, and explore methods for integrating traditional cultural elements into modern design. |
|  | 8 | Innovation & Sustainable Development: Enhance innovation awareness, encourage students to bravely explore and try new methods and tools in creation. Think about and practice green design concepts, focusing on sustainable approaches to artistic creation. |

（二）课程支撑的毕业要求

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| LO1 Moral Character: Uphold the leadership of the Communist Party of China, maintain firm ideals and convictions, consciously cultivate and actively promote socialist core values, enhance political identification, cultivate patriotic sentiments, abide by laws and regulations, inherit the spirit of Lei Feng , practice the school motto of "Gratitude, Repayment, Love, Responsibility", actively serve others and society, be honest and responsible, and dedicated to one's work.  ① Patriotic, firmly support the Party's leadership, love the country's territory, long history, and splendid culture, consciously safeguard national interests and dignity.  ② Law-abiding, enhance legal awareness, cultivate legal thinking, consciously abide by laws, regulations, and school rules.  ④ Be honest and responsible, trustworthy, diligent, strive for excellence, and courageous in taking responsibility. |
| LO2 Professional Ability: Possess humanistic literacy and the theoretical knowledge and practical abilities necessary for a specific job or profession.  ② Possess design literacy and aesthetic ability. Master key knowledge points such as basic modeling, design fundamentals, design principles, and aesthetic literacy. |
| LO4 Independent Learning: Able to determine learning goals based on environmental needs, and actively achieve learning goals through methods such as information gathering, analysis, discussion, practice, questioning, and creation.  ① Able to determine learning goals and design learning plans based on needs.  ② Able to gather and acquire learning resources needed to achieve goals, implement learning plans, reflect on learning plans, continuously improve, and achieve learning goals. |
| LO5 Healthy Development: Understand aesthetics, love labor, be enthusiastic, have physical and mental health, endure setbacks, and possess sustainable development capabilities.  ③ Understand aesthetics, possess the ability to discover, feel, appreciate, evaluate, and create beauty. |
| L07 Possess certain information literacy and be able to apply information technology and tools to solve problems in work.​  ②Able to use appropriate tools to gather information, and analyze, evaluate, judge, and integrate that information. |
| L08 Have basic foreign language communication skills and cross-cultural understanding, possess awareness of international competition and cooperation.  ① Possess foreign language communication skills meeting the requirements of the major.  ② Understand the history and culture of other countries, possess cross-cultural communication skills. |

（三）毕业要求与课程目标的关系

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| 毕业要求 | 指标点 | 支撑度 | 课程目标 | 对指标点的贡献度 |
| L01 | ① | H | Promote and inherit excellent cultural and artistic traditions, combining modern technology for creative expression. Cultivate a sense of identity with local culture, and explore methods for integrating traditional cultural elements into modern design. | 100% |
| L01 | ② | M | Ethics and sense of responsibility, understanding the ethical issues of artificial intelligence in artistic creation, such as copyright, data privacy, and the attribution of responsibility for AI-generated content.  Cultivate students' sense of social responsibility when using AI technology to ensure that the creative process and outcomes comply with ethical norms and legal requirements. | 100% |
| L02 | ② | H | Creative Expression Ability: Use AI technology for diverse artistic creations, enhancing uniqueness and innovation. Design high-quality anime characters, architectural scenes, and film posters. | 50% |
| Interdisciplinary Knowledge: Integrate art design, computer science, and data processing. Understand design theories for artistic styles, anime design, architectural scenes, and film posters. | 50% |
| L04 | ①,② | M | AI Tool Usage Skills: Proficiently use Midjourney, Stable Diffusion, ControlNet, ComfyUI. Master prompt writing techniques for AI image generation. | 100% |
| L05 | ③ | M | Interdisciplinary Knowledge: Integrate art design, computer science, and data processing. Understand design theories for multiple domains. | 30% |
| H | Creative Expression Ability: Use AI for diverse artistic styles, enhancing uniqueness and innovation. Design high-quality works across domains. | 70% |
| L07 | ② | M | Innovation & Sustainable Development: Enhance innovation awareness, encourage exploration of new methods/tools. Practice green design concepts and sustainable art creation. | 100% |
| L08 | ① | M | Master AI Fundamental Theories: Understand basic AI concepts, principles, and art applications. Learn working mechanisms of Stable Diffusion. | 50% |
| AI Tool Usage Skills: Proficiently use Midjourney, Stable Diffusion, ControlNet, ComfyUI. Master prompt writing techniques. | 50% |
| L08 | ② | M | Interdisciplinary Knowledge: Integrate art design, computer science, and data processing. Understand design theories for multiple domains. | 100% |

三、课程内容与教学设计

（一）各教学单元预期学习成果与教学内容

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| Unit 1: Introduction and Basic Knowledge​  Objective: Establish a foundational knowledge system, master AI fundamental theories and basic skills.  Content:​​  Course Introduction & Objectives: Course content, objectives, learning methods, assessment methods.  Artificial Intelligence Fundamentals: Basic concepts, historical background, and applications in art.  Prompt Writing Techniques: Principles and techniques for writing effective prompts. Practical exercise: Writing different types of prompts.  Midjourney Platform Usage: Introduction to Midjourney platform and its main features. Methods and practice of text-to-image and image-to-image generation.  Unit 2: Advanced AI Image Generation Techniques​  Objective: Master the application of Stable Diffusion, ControlNet, and Comfy UI.  Content:​​  Stable Diffusion Sampler: Basic algorithms and model structure. Practice: Text-to-image and image-to-image generation.  ControlNet Technology: Technical background and principles. Hands-on exercise: Using ControlNet for complex image generation.  Comfy UI Introduction & Application: Basic principles and operation guide of Comfy UI. Hands-on: Application in artistic creation.  Unit 3: Creative Art Design​  Objective: Apply AI tools to create and design in various artistic styles.  Content:​​  Artistic Style Drawing: Analysis and application of different artistic styles. Practical exercise: Generating works in multiple artistic styles.  Anime Character Design: Basic principles and design process of anime character design. Using AI tools for anime character design, from concept to detail refinement.  Architectural Scene Design: Basic principles of virtual architectural design and scene layout. Utilizing AI for architectural scene design and creation.  Film-level Poster Design: Basic principles of film poster design and visual storytelling techniques. Using AI to generate high-quality film posters.  Comprehensive Visual Design Application: Synthesizing learned techniques for visual design projects. Completing the creative process from concept to final work. |

（二）教学单元对课程目标的支撑关系

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| 课程目标  教学单元 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Unit 1: Introduction & Basic Knowledge | √ | √ | √ |  | √ |  |  |  |
| Unit 2: Advanced AI Image Gen Tech | √ | √ | √ | √ | √ | √ | √ | √ |
| Unit 3: Creative Art Design |  | √ | √ | √ | √ | √ | √ | √ |

（三）课程教学方法与学时分配

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| 教学单元 | 教与学方式 | 考核方式 | 学时分配 | | |
| 理论 | 实践 | 小计 |
| Unit 1: Introduction & Basic Knowledge | Lecture | Examine | 2 | 0 | 4 |
| Unit 2: Advanced AI Image Gen Tech | Lecture, Demonstration | Examine | 4 | 0 | 4 |
| ​Unit 3: Creative Art Design | Design Practice | Design Report Evaluation | 0 | 10 | 10 |
| 合计 | | |  |  |  |

（四）课内实验项目与基本要求

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| 序号 | 实验项目名称 | 目标要求与主要内容 | 实验  时数 | 实验  类型 |
| 1 | Artistic Style Drawing | AI generation in different artistic styles. | 2 | ③ |
| 2 | Anime Character Design | Using AI tools for anime character design, from concept to detail refinement, using ControlNet for pose adjustment. | 2 | ③ |
| 3 | Architectural Scene Design | Utilizing AI for architectural scene design. | 2 | ③ |
| 4 | Film-level Poster Design | |  | | --- | | Using AI to generate high-quality film posters. | | 4 | ③ |
| 实验类型：①演示型 ②验证型 ③设计型 ④综合型 | | | | |

四、课程思政教学设计

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| In the course "Artificial Intelligence and Creative Arts," ideological and political elements are integrated into the teaching process to cultivate students' scientific literacy, innovation capabilities, and social responsibility, while establishing correct values and professional ethics. The following design plan incorporates ideological and political elements aligned with the course content:  Unit 1: Introduction and Basic Knowledge  ​Objective: Establish a foundational knowledge system, master AI fundamental theories and basic skills, while fostering a correct view of technology and social responsibility.​​  ​Course Introduction & Objectives:​​  Introduce course content and objectives  ​Ideological Element: Emphasize the positive role of technological innovation in social development  ​Political Element: Discuss ethical and moral issues in artificial intelligence, emphasizing the principle of "technology for good"  ​Artificial Intelligence Fundamentals:​​  Cover basic concepts, historical background, and artistic applications of AI  ​Ideological Element: Highlight China's contributions and achievements in the AI field to enhance national pride  ​Prompt Writing Techniques:​​  Teach principles and techniques for writing effective prompts  ​Political Element: Guide students to consider social responsibility and cultural inheritance in artistic creation through prompt design  ​Midjourney Platform Usage:​​  Introduce Midjourney's features and functions  ​Ideological Element: Emphasize rational use of technological tools, avoiding misuse or over-reliance  Unit 3: Creative Art Design  ​Objective: Apply AI tools for creative work across artistic styles, while inheriting and promoting Chinese culture.  ​​Artistic Style Drawing:​​  Analyze and apply different artistic styles  ​Cultural Element: Incorporate traditional Chinese cultural elements to strengthen cultural confidence  ​Anime Character Design:​​  Teach principles and workflow for anime character creation  ​Political Element: Encourage designing anime characters with Chinese characteristics to disseminate Chinese culture  ​Architectural Scene Design:​​  Cover principles of virtual architecture design and scene composition  ​Cultural Element: Integrate traditional Chinese architectural elements to deepen students' identification with local culture  ​Film-level Poster Design:​​  Teach principles of film poster design and visual storytelling  ​Ideological Element: Convey positive energy and social justice through poster designs for exemplary film works |

五、课程考核

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| 总评构成 | 占比 | 考核方式 | 课程目标 | | | | | | | | 合计 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| X1 | 25% | Artistic Style Drawing | 10 | 20 | 10 | 30 | 10 |  | 20 |  | 100 |
| X2 | 25% | Anime Character Design | 10 | 20 | 10 | 30 | 10 |  | 20 |  | 100 |
| X3 | 25% | Architectural Scene Design | 10 | 20 | 10 | 30 | 10 |  | 20 |  | 100 |
| X4 | 25% | Film-level Poster Design | 10 | 20 | 10 | 30 | 10 |  | 20 |  | 100 |

评价标准细则（选填）

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| 考核项目 | 课  程  目  标 | 考核要求 | 评价标准 | | | |
| 优  100-90 | 良  89-75 | 中  74-60 | 不及格  59-0 |
| 1 |  |  |  |  |  |  |
| X1 |  |  |  |  |  |  |
| X2 |  |  |  |  |  |  |
| X3 |  |  |  |  |  |  |
| X4 |  |  |  |  |  |  |
| X5 |  |  |  |  |  |  |

六、其他需要说明的问题

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