

《信息科学技术发展伦理与道德》教学大纲

一、课程基本信息

课程名称/英文名称	信息科学技术发展伦理与道德 /Ethics in the Development of Information Science and Technologies	课程代码	SI290D
课程层次		学分/学时	2/32
主要面向专业	SIST Undergrads and Grads; Cross-listing as an SEM Elective	授课语言	双语
先修课程		建议先修说明	
开课单位	信息科学与技术 学院	课程负责人	杨丽凤

注 1: 课程层次填写“本科生课程”、“研究生课程”或“本研一体课程”

注 2: 主要填写全校 10 个本科专业 (或若干个专业的组合) 或“全体本科生”或“全校学生”

注 3: 显示课程信息里的“强制先修课程”信息, 强制先修课程是本课程的选课强制约束条件;

教师在录入课程教学大纲时, 该信息显示但不可修改

注 4: 可在此填写教师对学生修读本课程之前应具备哪些知识基础的建议

二、课程简介



[线上教学《信息科学技术发展伦理与道德》\(SI290D\) 课程学习指南.docx](#)

本课程将由创管学院态度研究实验室（www.ar-lab.cn）负责人杨丽凤教授和信息学院虞晶怡教授主导，并邀请信息学院教授团队以及业界资深管理专家共同讲授。本课程将致力于培养学生在信息科学技术发展中的伦理道德观念及态度。课程将从人行为和心理的倾向性出发，探讨信息科学技术对人个体、群体、以及整体社会的长、短期影响。通过课程训练，学生将对当前全球已有的信息科技中的伦理规范具有更深刻的认识，并在此基础上形成意识从而在开发新科技中充分融合伦理在技术发展中的重要性。

前全球已有的信息科技中的伦理规范具有更深刻的认识，并在此基础上形成意识从而在开发新科技中充分融合伦理在技术发展中的重要性。

三、课程教学目标

四、课程教学方法

五、课程教学内容与安排

周	主要内容
1	课程介绍。（与虞晶怡教授共同讲授）
2	在人工智能、社交媒体、网络科技等现代信息科技时代中人心理与行为的倾向性。
3	人工智能、社交媒体、网络科技等现代信息科技对于人在人们之间的关系、社交期待以及幸福感的影响。
4	人工智能、社交媒体、网络科技等现代信息科技对于人在认知、学识、交流壁垒以及社会经济文化两极分化中的影响。
5	人与机器人。
6	在人工智能和机器人时代里人类自主性与可持续性。
7	考量当前有关信息科学与科技发展的伦理规范。设计伦理中的最重要因素是什么？
8	设计在数据安全、隐私保护、物联网技术及区块链技术中的伦理规范。
9	设计在人工智能科技发展中的伦理规范。
10	设计在虚拟现实科技、深伪科技中的伦理规范。
11	人类工作的未来。
12	课程总结报告。

六、考核方式和成绩评定方法

学生的课程成绩将由以下几部分组成：（1）课堂参与度及随堂作业（40%）；（2）课后个人作业及小组作业（30%）；（3）以小组为单位的课程综合项目（30%）。

课程中也许有附加分的机会。附加分机会将在上课期间公布。

七、教材和参考书目

参考书目	教材名称	教材作者	教材译者	ISBN	教材出版社	出版日期	教材版次
推荐教材	教材名称	教材作者	教材译者	ISBN	教材出版社	出版日期	教材版次

八、学术诚信教育

九、其他说明（可选）

课程每周的必读材料将在 **Blackboard** 中公布。下面是本课程相关的一部分中英文读物：

English:

- Wendell Wallach, Colin Allen (2008), *Moral Machines: Teaching Robots Right from Wrong*, Oxford University Press.
- Joseph R. Carvalko Jr. (2020), *Conserving Humanity at the Dawn of Posthuman Technology*, Palgrave Macmillan.
- David J. Gunkel (2012), *The Machine Question: Critical Perspectives on AI, Robots, and Ethics*, The MIT Press.
- Patrick Lin, Keith Abney, George A. Bekey (2011), *Robot Ethics: The Ethical and Social Implications of Robotics*, The MIT Press.

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- Flynn Coleman (2019), *A Human Algorithm: How Artificial Intelligence Is Redefining Who We Are*, *Counterpoint*.
 - Brian Cantwell Smith (2019), *The Promise of Artificial Intelligence: Reckoning and Judgment*, *The MIT Press*.
 - Michael Kearns, Aaron Roth (2019), *The Ethical Algorithm: The Science of Socially Aware Algorithm Design*, *Oxford University Press*.
 - Antonio Espingardeiro (2015), *The day humans live with machines: social assistive robots a complement for elderly care in the 21st century*, *The MIT Press*.
 - Janelle Shane (2019), *You Look Like a Thing and I Love You: How Artificial Intelligence Works and Why It's Making the World a Weirder Place*, *Voracious*.
 - Patrick Lin, Keith Abney, George A Bekey(2014), *Robot Ethics: The Ethical and Social Implications of Robotics (Intelligent Robotics and Autonomous Agents series)*, *The MIT Press*.
 - Michael J. Sandel (2010), *Justice: What's the Right Thing to Do?*, *Farrar, Straus and Giroux*.
 - Cathy O'Neil (2017), *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*, *Broadway Books*.
 - Brian Cantwell Smith (2019), *The Promise of Artificial Intelligence: Reckoning and Judgment*, *The MIT Press*.
 - Kartik Hosanagar (2019), *A Human's Guide to Machine Intelligence: How Algorithms Are Shaping Our Lives and How We Can Stay in Control*, *Viking*.

中文书单:

书名	作者	出版社	出版时间
《数文明》	涂子沛	中信出版社	2018/9/1

Ethics in the Development of Information Science and Technologies

Syllabus

1. Basic Course Information

Course Name	Ethics in the Development of Information Science and Technologies	Course Code	SI290D
Course Level		Credit/Contact Hour	2/32
Major		Teaching Language:	
Prerequisite		Prerequisite suggestion:	
School/Institute	School of Information Science and Technology	Instructor	杨丽凤

Notes: *Course level includes undergraduate, graduate, or undergraduate/graduate.

**If multiple instructors are involved, please list the name of team leader.

2. Course Introduction

Although Professor Lifeng Yang from SEM's Attitude Research Lab (i.e.: ARLab, www.ar-lab.cn) will be the course director, Professor Jingyi Yu and other faculty from SIST will be joining the force to co-teach this course. In this course, students will be able to gain an in-depth understanding of why the development of information science and technologies should consider both long-term and short-term welfare of individuals, groups, and the collective society. Students will have an opportunity to assess existing ethical standards in

this regard, they also will be able to engage in the development of field specific ethical standards for emerging technologies.

3. Learning Goal

4. Textbook & Recommended Reading

Textbook	Book Title	Author	Translator	ISBN	Pubulisher	Pubulished Date	Edition
Recommended Reading	Book Title	Author	Translator	ISBN	Pubulisher	Pubulished Date	Edition

5. Grading Policy

Student's grade for the course will be determined by the following:

- (1) Class participation and in-class assignments (40%);
- (2) After-class assignments: individual and group (30%);
- (3) Comprehensive group project for the course (30%).

Students might be able to receive extra credit for the course by voluntarily participating in studies related to human decision making. Details for extra credit opportunities will be provided in class.

6. Instructional Pedagogy

7. Course Structure

Week	Topics
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1	Course overview. Fourth Industrial Revolution. Human-centric. (with Professor Jingyi Yu)
2	Human tendencies (behavioral and psychological) in the presence of AI, social media, and the "internet of things".
3	Human relations, expectations, & wellbeing in the presence of AI, social media, and the "internet of things".
4	Disparities (i.e.: knowledge, cognition, economy, culture) acceleration and communication barriers in the presence of AI, social media, and the "internet of things".
5	Human-robotic relations.
6	Human autonomy and sustainability in the presence of AI and robotics.
7	Assess existing ethics, laws, and regulations. Devise ethical standards in the development of information science and technologies: What are the key factors?
8	Devise ethical standards for blockchain/data security/privacy protection.
9	Devise ethical standards for AI.
10	Devise ethical standards for the development of VR/mixed realities/deepfake.
11	The future of work.
12	Wrap up.

8. Academic Integrity

Required readings for each week will be made available to students on course blackboard site. Below are select articles and books that are relevant to the course.

English:

- Wendell Wallach, Colin Allen (2008), *Moral Machines: Teaching Robots Right from Wrong*, Oxford University Press.
- Joseph R. Carvalko Jr. (2020), *Conserving Humanity at the Dawn of Posthuman Technology*, Palgrave Macmillan.
- David J. Gunkel (2012), *The Machine Question: Critical Perspectives on AI, Robots, and Ethics*, The MIT Press.

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- Patrick Lin, Keith Abney, George A. Bekey (2011), Robot Ethics: The Ethical and Social Implications of Robotics, *The MIT Press*.
 - Flynn Coleman (2019), A Human Algorithm: How Artificial Intelligence Is Redefining Who We Are, *Counterpoint*.
 - Brian Cantwell Smith (2019), The Promise of Artificial Intelligence: Reckoning and Judgment, *The MIT Press*.
 - Michael Kearns, Aaron Roth (2019), The Ethical Algorithm: The Science of Socially Aware Algorithm Design, *Oxford University Press*.
 - Antonio Espingardeiro (2015), The day humans live with machines: social assistive robots a complement for elderly care in the 21st century, *The MIT Press*.
 - Janelle Shane (2019), You Look Like a Thing and I Love You: How Artificial Intelligence Works and Why It's Making the World a Weirder Place, *Voracious*.
 - Patrick Lin, Keith Abney, George A Bekey(2014), Robot Ethics: The Ethical and Social Implications of Robotics (Intelligent Robotics and Autonomous Agents series), *The MIT Press*.
 - Michael J. Sandel (2010), Justice: What's the Right Thing to Do?, *Farrar, Straus and Giroux*.
 - Cathy O'Neil (2017), Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy, *Broadway Books*.
 - Brian Cantwell Smith (2019), The Promise of Artificial Intelligence: Reckoning and Judgment, *The MIT Press*.
 - Kartik Hosanagar (2019), A Human's Guide to Machine Intelligence: How Algorithms Are Shaping Our Lives and How We Can Stay in Control, *Viking*.

中文书单:

书名	作者	出版社	出版时间
《数文明》	涂子沛	中信出版社	2018/9/1

9. Other Information (Optional)

《信息科学技术发展伦理与道德》教学大纲

一、课程基本信息

课程名称/英文名称	信息科学技术发展伦理与道德 /Ethics in the Development of Information Science and Technologies	课程代码	SI290D
课程层次	本研一体	学分/学时	2/32
主要面向专业	信息学院本科生	授课语言	双语
先修课程		建议先修说明	无
开课单位	信息科学与技术 学院	课程负责人	杨丽凤

注 1: 课程层次填写“本科生课程”、“研究生课程”或“本研一体课程”

注 2: 主要填写全校 10 个本科专业 (或若干个专业的组合) 或“全体本科生”或“全校学生”

注 3: 显示课程信息里的“强制先修课程”信息, 强制先修课程是本课程的选课强制约束条件;
教师在录入课程教学大纲时, 该信息显示但不可修改

注 4: 可在此填写教师对学生修读本课程之前应具备哪些知识基础的建议

二、课程简介

本课程将由创管学院态度研究实验室负责人杨丽凤教授和信息学院虞晶怡教授主导, 并邀请信息学院教授团队、客座教授共同讲授。本课程将致力于培养学生在信息科学技术发展中的伦理道德观念及态度。课程将从人行为和心理的倾向性出发, 探讨信息科学技术对人个体、群体、以及整体社会的长、短期影响。

三、课程教学目标

认识认知能力：通过课程训练，对当前全球已有的信息科技中的伦理规范具有更深刻的认识，并在此基础上形成意识从而在开发新科技中充分融合伦理在技术发展中的重要性。

综合素质能力：能理解信息科技伦理中的道德和规范，具备科学精神，具备科技报国的家国情怀和使命担当；能进行团队协作，具备合作精神和人际沟通能力。

四、课程教学方法

课堂讲授与讨论：课程教授每堂课将讲授相应主题，并会针对教学主题提供若干讨论话题供学生进行分组讨论。学生每个小组将通过课堂口头陈述、书面报告等形式对讨论结果进行课堂展示。

五、课程教学内容与安排

教学周	日期	主要教学内容	教学方法	学时安排
1	2/10	课程介绍	课堂讲授、讨论	3
2	2/17	信息科技伦理思考的原则与研究方法	课堂讲授、讨论	3
3	2/24	人工智能与智能决策/人机协同	课堂讲授、讨论	3
4	3/3	大数据	课堂讲授、讨论	3
5	3/10	大数据时代下的个人信息安全/相关法律法规	课堂讲授、讨论	3
6	3/17	数字身份/NID/区块链	课堂讲授、讨论	3
7	3/24	虚拟与现实/元宇宙/Deepfake	课堂讲授、讨论	3
8	3/31	科技向善/科技人文主义	课堂讲授、讨论	3
9	4/7	期末报告预演+反馈	课堂讲授、讨论	4

10	4/14	期末报告总演	学生期末考核	4
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六、考核方式和成绩评定方法

学生的课程成绩将由以下三部分组成：

1. 课堂出席、参与度、及随堂测验（共 30%）。每堂课会随机抽部分同学进行随堂小测验，测验内容与前一周布置的阅读材料相关，保证所有同学参与测验的次数相同。同时课上会针对教学主题提供若干讨论话题，学生进行分组讨论，每个小组将通过课堂口头陈述、书面报告等形式对讨论结果进行课堂展示。具体考核构成如下：

- a. 课堂出席（10%）
- b. 随堂测验（10%）
- b. 课堂讨论参与度及质量。（10%）

2. 课后作业。（30%）

3. 以小组为单位的课程综合项目，该项目完成后将会以路演的形式进行展示（40%）。具体考核构成如下：

- a. 期末报告（20%）+期末路演展示（20%）

学生可自愿参与课程相关研究以获得附加分。附加分细节将在课上公布。

七、教材和参考书目

参考书目	教材名称	教材作者	教材译者	ISBN	教材出版社	出版日期	教材版次
推荐教材	教材名称	教材作者	教材译者	ISBN	教材出版社	出版日期	教材版次

八、学术诚信教育

本课程高度重视学术诚信，严禁抄袭、作弊等行为。“在学习、科研、实习实践等活动中，学生应恪守学术道德，坚守学术诚信，保护知识产权，坚持勇于创新、求真务实的科学精神，努力培养自己严谨求实、诚实自律、真诚协作的科学态度，成为良好学术风气的维护者、严谨治学的力行者、优良学术道德的传承者。”（具体请参见《上海科技大学学生学术诚信规范与管理办法（试行）》文件要求）

九、其他说明（可选）

本课程已准备完整讲义，均为各授课教师自备讲义及课件，并规划制定教材中。

Ethics in the Development of Information Science and Technologies

Syllabus

1. Basic Course Information

Course Name	Ethics in the Development of Information Science and Technologies	Course Code	SI290D
Course Level	undergraduate/graduate	Credit/Contact Hour	2/32
Major	All SIST students	Teaching Language:	Bilingualism
Prerequisite		Prerequisite suggestion:	None
School/Institute	School of Information Science and Technology	Instructor	杨丽凤

Notes: *Course level includes undergraduate, graduate, or undergraduate/graduate.

**If multiple instructors are involved, please list the name of team leader.

2. Course Introduction

Professor Lifeng Yang from SEM's Attitude Research Lab is the director of this course. Professor Jingyi Yu, visiting Professors from different fields, and other faculty from SIST will be joining the force to co-teach this course. In this course, students will be able to gain an in-depth understanding of why the development of information science and technologies should consider both long-term and short-term welfare of individuals, groups, and the collective society.

3. Learning Goal

Cognitive competence: Students will have an opportunity to assess existing ethical standards in this regard, they also will be able to engage in the development of field specific ethical standards for emerging technologies.

Comprehensive qualities: Understand the ethics and norms in the information technology and have a scientific spirit; have the sentiment of serving the country when developing/using emerging technologies; be able to work in a team; be able to use perspective taking skills when working in a team.

4. Textbook & Recommended Reading

Textbook	Book Title	Author	Translator	ISBN	Pubulisher	Pubulished Date	Edition
Recommended Reading	Book Title	Author	Translator	ISBN	Pubulisher	Pubulished Date	Edition

5. Grading Policy

Student's grade for the course will be determined by the following:

1. Class attendance, participation and impromptus quizzes (30%).
2. After-class assignments (30%).
3. Comprehensive group project for the course. (40%)
 - a. Final report (20%) and presentation/roadshow (20%).

Students might be able to receive extra credit for the course by voluntarily participating in studies related to human decision making. Details for extra credit opportunities will be provided in class.

6. Instructional Pedagogy

Lecture discussion: In a typical lesson other than assessment days, instructors will present lecture on designated topic. In addition, some discussion topics will be provided for group discussions. Each group will present their discussion results in the form of oral presentations or written reports before class ends.

7. Course Structure

Week	Date	Teaching Contents	Contact Hours	Teaching Modes
1	2/10	3	Lecture/Discussions	
2	2/17	Thinking principles and research methods for ethics research in information science and technology	3	Lecture/Discussions
3	2/24	AI-aided decision/human-machine synergy	3	Lecture/Discussions
4	3/3	Big data	3	Lecture/Discussions
5	3/10	Personal information security under the age of big data / related regulations and laws	3	Lecture/Discussions
6	3/17	Digital identity / NID / Blockchain	3	Lecture/Discussions
7	3/24	Virtual and reality/Metaverse/Deepfake	3	Lecture/Discussions
8	3/31	Tech for Social Good/Humanism of information science and technology	3	Exam Day

9	4/7	Roadshow Preview + Feedback	4	Lecture/Discussions
10	4/14	Roadshow	4	Lecture/Discussions

8. Academic Integrity

This course highly values academic integrity. Behaviors such as plagiarism and cheating are strictly prohibited.

This course has complete lecture notes which is written by each instructor.

9. Other Information (Optional)