

ACUCA



Presented by

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**ATMA JAYA CATHOLIC UNIVERSITY OF INDONESIA
FACULTY OF ENGINEERING
INDUSTRIAL ENGINEERING DEPARTMENT
MAY 2024**

Theme : Innovation and Entrepreneurship with AI Tools

Course Content :

- i. Online course design
- ii. Learning objectives, assessment, and instructional strategies or activities
- iii. Course Syllabus
- iv. Classroom management

COURSE SYLLABUS

Faculty, Department : Engineering, Industrial Engineering
Course Name : Innovation and Entrepreneurship with AI Tools
Credit : 3
Academic Year : 2024-25
Semester/Term : Fall/ Spring Semester
Day/Time : July 22th - August 9th 2024; Monday to Friday, 3 PM - 6 PM Japan Time
Lecturer(s) : Feliks P. S. Surbakti, Ph.D. and Regina Fortunata Salim, S.T., CSCA

COURSE DESCRIPTION

“Innovation and Entrepreneurship with Artificial Intelligence (AI) Tools” course provides students with an understanding of Innovation and Entrepreneurship as well as how these approaches relate to the broader strategic thinking skills. Being an important part of thinking in a strategic manner, Innovation is a way to initiate creativity and “out of the box” ideas that can be implemented in business decision-making, including in business model innovation or in product/service innovation. Artificial Intelligence (AI) Tools is a media that supports and levels up the way students create and develop innovation and business. This course aims to acknowledge the role of design thinking, together with systems thinking and future thinking, in successfully transforming businesses and sparking innovation. This course will ask students to step out of their comfort zone and the way they could give an impact and improvement to the world.

GENERAL INSTRUCTIONAL OBJECTIVES

1. Students should be able to critically and creatively identify problems/issues statement in management, create innovative solutions, and develop recommendations and implementation plans,
2. Students should be able to develop the required understandings and prioritize suitable leadership concepts,
3. Students should be able to build effective and persuasive communication skills using appropriate ICT tools.

LEARNING OUTCOMES

By learning and practicing this course, students are expected to be able to:

1. Apply design thinking and strategic thinking approaches in business decision-making. Also supported by AI Tools;
2. Design a prototype using the design thinking process, ICT, and AI tools.
3. Propose effective and persuasive approaches in design thinking to make innovative decision;
4. Communicate business idea effectively through pitch deck;
5. Analyze the traits and skills of successful entrepreneurs and ventures;
6. Analyze the environment of business and understand how to start a new business through business plan and ICT utilization.

COMPETENCIES

C1 Think critically and creatively in analyzing business problems/issues.

C2 Possess creative-problem solving skills to create conclusions from various elements in business model innovation or product/service innovation.

C3 Resolve and circumnavigate conflicts and phenomena based on Sustainability Development Goals (SDGs).

C4 Undertake entrepreneurial attitude in managing strategic planning and business decision-making.

C5 Evaluate strategic managerial decisions of business or product/service improvement.

TOOLS

- Personal Computer/ Laptop
- Microsoft Office (Word, Excel, Powerpoint)
- Artificial Intelligence & other tools (Shedevrum, Chat GPT, GPT 4, Canva, Marvel App, Figma)

LEARNING STRATEGIES

There will be 15 sessions on this topic, incorporating lecturer presentation, group discussion, collaboration, and prototyping which will triangulate dialogue, observations and work of design in business to criticize and reflect in multi-perspectives. Students will have the potential gains of seeing things and thinking differently.

CLASS POLICY

To optimize individual learning, students are expected to:

- Students who come after the 30 minutes late tolerance may still attend the course, however will be marked as absent.
- Students with less than 80% class attendance are not eligible to take the final exam or final project.
- Please note that 20% absence is the maximum absence allowed and should be used for emergency cases only such sickness, accident, etc., making students unable to attend class.
- Students are not allowed to talk or discuss non-class related issues among themselves.
- Students are expected to be attentive and give their critical opinion during class discussions.

TEXT BOOKS

- Brown, T. (2009). Change By Design: how design thinking transforms organizations and inspires innovation. New York: Harper Collins.

ONLINE MATERIAL & RESOURCES

- <https://padlet.com/reginafortunatasalim777/innovation-with-ai-enpylvniqggx2c7z>
- <https://blog.openreplay.com/design-thinking-using-ai/>
- <https://sdgs.un.org/goals>

REFERENCES

- Zacharakis, A., Bygrave, W.D., & Corbett, A.C. (2017). Entrepreneurship: Tools to Start Your Own Business, 4th Edition Asia Custom Edition. Wiley
- Sherwood, D. (2011). Seeing the forest for the trees: a manager's guide to applying systems thinking. Nicholas Brealey Publishing.
- Osterwalder, A. & Pigneur, Y. (2010). Business model generation: A handbook for visionaries, game changers, and challengers. New Jersey: John Wiley & Sons.
- Osterwalder, A., Pigneur, Y., Bernarda, G., & Smith, A. (2014). Value proposition design: How to create products and services customers want. New Jersey: John Wiley & Sons.
- Wright, G., & Cairns, G. (2011). Scenario thinking: Practical approaches to the future. Springer.
- Crainer, S. (2014). Future thinking. Business Strategy Review, 25(3), 77-77.
- Glen, R., Suci, C., & Baughn, C. (2014). The need for design thinking in business schools. Academy of Management Learning & Education, 13(4), 653-667.

GRADE SCHEME

1. Class Analysis (30%)
2. Final Presentation (50%)
3. Course Participation (20%)

COURSE PLANNER

1. Innovation & Entrepreneurship Mastery with AI Tools
 - a. Exploring Latest AI Trend : GPT 4, Chat GPT
 - b. Sustainable Development Goals (SDGs)
 - c. Learning System Thinking, Design Thinking, and Future Thinking
 - i. System Thinking : Causal Loop Diagram
 - ii. Design Thinking :
 1. Empathize
 2. Define
 3. Ideate
 4. Prototype
 5. Testing
 - iii. Future Thinking : 7 Steps/Tools of Future Thinking
 - d. Business Model Canvas (BMC)
 - e. Financial Projection
 - f. Strategic and Business Planning
2. The Applications
 - a. Case Study
 - b. Final Project : Building Innovative Product or Service

SCHEDULES

Session 1. Introduction to Innovation and Entrepreneurship with AI Tools

Topics :

- Entrepreneurship and ICT Megatrends
- Strategic Entrepreneurship : System, People, and Time in Value Creation and Capture
- System Thinking, Design Thinking, and Future Thinking
- Generative AI and Its Applications : Shedevrurn, Chat GPT, GPT 4

References

Zacharakis et al (2017); Crainer (2014); Brown (2009); Sherwood (2011); Glen et al (2014)

Learning Outcomes

LO 1, and LO 5

Tools

Chat GPT

Session 2. Sustainability Development Goals (SDGs)

Topics :

- 17 Sustainability Development Goals (SDGs)
- SDGs Phenomena and Problems/Issues
- Getting PESTEL Insights of SDGs Phenomena using Padlet.com

References

<https://sdgs.un.org/goals>

Learning Outcomes

LO 1, and LO 5

Tools

Chat CPT; Padlet.com

Session 3. Business Opportunity and Thinking in Systems

Topics :

- Entrepreneurial Opportunity and Challenge
- System Thinking
- Causal Loop Diagram

References

Zacharakis et al (2017); Sherwood (2011)

Learning Outcomes

LO 1, and LO 5

Tools

Chat GPT

Session 4. Design Thinking I : Empathize

Topics :

- Design Mindset
- Empathize in Concept
- Empathizing using Empathy Map

References

Brown (2009)

Learning Outcomes

LO 2, LO 3, and LO 4

Tools

Chat GPT; Canva; Marvel App; Figma; Shedevrum

Session 5. Design Thinking II : Define

Topics :

- **Define Customer Needs**
- **Value Proposition Canvas in Concept**
- **Problem Statement : How Might We?**

References

Brown (2009)

Learning Outcomes

LO 2, LO 3, and LO 4

Tools

Chat GPT; Canva; Marvel App; Figma; Shedevrum

Session 6. Design Thinking III : Ideate

Topics :

- **Brainstorming**
- **Voting by using Desirability, Viability, and Feasibility Assessment and Approach**

References

Brown (2009)

Learning Outcomes

LO 2, LO 3, and LO 4

Tools

Chat GPT; Canva; Marvel App; Figma; Shedevrum

Session 7. Design Thinking IV : Prototyping and Testing

Topics :

- **Business Model Canvas in Concept**
- **Prototyping Product/Service using Canva, Marvel App, and Figma**
- **Testing the Prototypes**

References

Brown (2009)

Learning Outcomes

LO 2, LO 3, and LO 4

Tools

Chat GPT; Canva; Marvel App; Figma; Shedevrum

Session 8. Value Proposition and Business Model Canvas

Topics :

- **Value Proposition Canvas in Advanced**
- **Business Model Canvas in Advanced**

References

Osterwalder et al (2010); Osterwalder et al (2014)

Learning Outcomes

LO 1, LO 4, LO 5

Tools

Chat GPT; Canva

Session 9. Future Thinking I : Identifying Critical Junctures

Topics :

- **Future Thinking and Scenario Planning Analysis**
- **Future Trends**
- **Determining and Clustering the Driving Forces**

References

Wright and Cairns (2011)

Learning Outcomes

LO 1, LO 4, LO 5, LO 6

Tools

Chat GPT; Canva; Marvel App; Figma; Shedevrum

Session 10. Future Thinking II : Cluster Outcomes and Impact/Uncertainty Assessment

Topics :

- **Defining Cluster Outcomes**
- **Developing Impact/Uncertainty Matrix**
- **Framing and Scoping Scenario**

References

Wright and Cairns (2011)

Learning Outcomes

LO 1, LO 4, LO 5, LO 6

Tools

Chat GPT; Canva; Marvel App; Figma; Shedevrum

Session 11. Future Thinking III : Developing Scenario

Topics :

- **Identifying Scenario**
- **Developing Alternative Path**

References

Wright and Cairns (2011)

Learning Outcomes

LO 1, LO 4, LO 5, LO 6

Tools

Chat GPT; Canva; Marvel App; Figma; Shedevrum

Session 12. Future Thinking IV : Business Model Innovation

Topics :

- **Using Business Model Canvas**

- **Business Model Innovation in Advanced**

References

Wright and Cairns (2011)

Learning Outcomes

LO 1, LO 4, LO 5, LO 6

Tools

Chat GPT; Canva; Marvel App; Figma; Shedevrum

Session 13. Strategic and Business Planning

Topics :

- **Strategic and Business Planning**
- **Put All Innovation and Entrepreneurship with AI Tools**

References

Wright and Cairns (2011)

Learning Outcomes

LO 1, LO 2, LO 3, LO 4, LO 5, LO 6

Tools

Chat GPT; Canva

Session 14. Pitch Deck

Topics :

- **Create a Pitch Deck**
- **Effective and Persuasive Presentation**
- **Presentation Development**
- **Final Review**

References

Wright and Cairns (2011)

Learning Outcomes

LO 1, LO 2, LO 3, LO 4, LO 5, LO 6

Tools

Chat GPT; Canva; Figma

Session 15. Final Presentation

Topics :

- **Final Project Presentation**
- **Q&A Discussion**

References

Wright and Cairns (2011); Brown (2009); Sherwood (2011)

Learning Outcomes

LO 1, LO 2, LO 3, LO 4, LO 5, LO 6

Tools

Chat GPT; Canva; Figma

CURRICULUM VITAE

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