NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

Teaching, Learning and Pedagogy Division

Reg. No. 200604393R

COURSE OUTLINE TEMPLATE FOR STUDENTS AT NTU

Academic Year	AY22-23	**Semester**	Semester 1 & 2
Course Coordinator			
Course Code	ET5101		
Course Title	DEEP Dive into Entrepreneurship		
Pre-requisites	none		
No of AUs	3		
Category	BDE/GER		
Contact Hours	Total contact hours: 60 hours spread over one and half semesters. Seminars – 3 hours Workshops – 6 hours Discussions – 6 hours Project Work – 42 hours (equivalent to 21 teaching contact hours) Presentation – 3 hours		
Proposal Date	*5 September 2022*		

Course Aims

This course is one of the Deeper Experiential Engagement Projects (DEEP) series of BDEs/GERs. It aims to make use of projects initiated from interest-based or problem-driven activities to develop your awareness of the practical relevance of entrepreneurship and innovation beyond the classroom. In this course you will learn from entrepreneurship faculty and be mentored by experienced entrepreneurs. The course will expose you to entrepreneurial ecosystem and support networks at NTU. You will be introduced to the fundamentals of entrepreneurship, innovation and new venture creation process. You will learn to generate ideas, identify opportunities, discover customer needs, design a product or service, and develop a relevant prototype and business model. This training will enable you to develop the entrepreneurial mindset and practical entrepreneurial skills which are highly relevant to any entrepreneurship undertaking in the future.

This experiential learning project may take place in halls with Residential Education facilities, NTU Clubs and Society spaces, or any appropriate spaces made available by the Schools or Institutes for such work. You will learn experimental (experiential) approaches, how to manage time and resources, and consider how your newly acquired knowledge and skills can be used to benefit others.

Intended Learning Outcomes (ILO)

This course is not about how to write a business plan or to do library research. The learning outcome is not a PPT slide deck. Instead, you and your team should learn by doing, turning an idea into a problem-solving solution and a great business. Through this hands-on process, you get real experience of how startups actually work with constraints and under uncertainty. You will expand your network with like-minded peers, instructors, mentors, customers, and investors.

You will learn:

1. Key elements of entrepreneurship and innovation
2. Ideation and identification of entrepreneurial opportunities
3. Defining value propositions
4. Designing business models
5. Customer development
6. Establishing product-market fit
7. Business pitching

Course Content

The course covers the following key topics:

1. Key concepts of practical entrepreneurship
2. Team building
3. Entrepreneurial idea generation based on real-life problems
4. Entrepreneurial opportunity evaluation
5. Customer discovery
6. Product design
7. Prototyping
8. Product-market fit
9. Business model design
10. Effective pitching

Upon successfully completing this course, students will also possess the following **attitudes, views or attributes**:

1. Gain practical entrepreneurship knowledge from both science and art perspectives;
2. Form a strong customer-centric mentality and related problem-solving attributes;
3. Respect teamwork, build truest, and demonstrate leadership;
4. Be comfortable with failures and uncertainties

Assessment (includes both continuous and summative assessment)

Component	ILO Tested	Programme LO	Weight	Team/Individual	Assessment rubrics
1. Knowledge	1	Competence	15%	Individual	Rubric 1
2. Ideation	1,2	Creativity, Competence, Communication	10%	Team	Rubric 2
3. Project Proposal	2,3	Creativity, Competence,	15%	Team	Rubric 3
4. Business Model	3,4,5,6	Creativity, Competence,	20%	Team	Rubric 4
5. DEMO	6,7	Competence, Communication	30%	Team	Rubric 5
6. Learning Reflection	1,6,7	Competence, Communication	10%	Individual	Rubric 6
Total			100%		

Formative feedback

You will receive both written and verbal feedback in response to your proposal, presentation, and report. You will also receive verbal feedback from peers, mentors, and

course coordinator about your approaches, attitude, and progress which is intended to address your gaps in experimental and experiential learning.

Learning and Teaching approach

Approach	**How does this approach support you in achieving the learning outcomes?**
Seminars	The seminar sessions provide opportunities for you to raise conceptual and practical questions, discuss, argue, and share ideas and experiences with the class, thus to facilitate the desired learning outcomes to be achieved.
Project Work	The hands-on project work focuses on inculcating a culture of proactive individual and collaborative learning. Project advisors and mentors facilitate discussion and guide you to acquire fundamental knowledge and practical skills. You are expected to adopt, adapt, and synthesise the acquired learnings into practice.
Case Study	Classic cases, especially based on real-life examples provide concrete scenarios for you to conduct in-depth analysis in the interactive team-based learning format. This allows you to connect both best practices and valuable lessons drawn from past failures of other entrepreneurs to create innovative solutions to address the current challenges. This approach enables you to achieve those learning outcomes related to the practical skills which cannot be acquired merely from seminars in the classroom.
Experiential Learning	The structures of the submissions scaffolds the processes that closes the Experiential Learning Cycle, i.e. complementing hands-on experiences with Reflective Observation and Abstract Conceptualization, which then manifests in the next round of decision-making and Active Experimentation.

Reading and References

- Entrepreneurship: The Practice and Mindset. Heidi M. Neck, Christopher P. Neck, and Emma L. Murray, 2016
- The Startup Owner's Manual: The Step-By-Step Guide for Building a Great Company. Steve Blank, Bob Dorf, 2012
- Business Model Generation. Alexander Osterwalder and Yves Pigneur
- The Lean Startup. Eric Ries, 2011

Course Policies and Student Responsibilities

Suggested fields for this portions include general policies with regards to students' assignment, punctuality absenteeism, etc.

(1) General

You are expected to complete all assigned pre-class readings and activities, attend all seminars, workshops, and presentations punctually. You are expected to take responsibility to follow up with course notes, individual and group assignments or projects, and course related announcements. You are expected to actively participate in and

contribute to discussions and activities and be responsible for the management of your project.

(2) Absenteeism

Absence from scheduled class without a valid reason will affect your overall course grade. Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies.

If you miss a lecture, you must inform the course instructor via email prior to the start of the class.

Academic Integrity

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values.

As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the academic integrity website for more information. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

Course Instructors & Mentors

Instructor	Office Location	Phone	Email
TBA			

Mentor	Office Location	Phone	Email
TBA			

Planned Weekly Schedule

Week	Topic	ILO	Readings/ Activities
1	**Introduction to entrepreneurship**; key concepts & business model	1, 4	Read: - *Entrepreneurship: The Practice and Mindset* - *Business Model Generation* 1h seminar 1h workshop 0.5h discussion
2	**Team Building** - Knowing self and knowing the team - Building on strengths (learning via StrengthsFinder or equivalent tools)	1	2h workshop (using StrengthsFinder / CliftonStrengths or equivalent) 0.5h discussion
3	**Ideation**	1,2	1h workshop 0.5h discussion 1h project work
4	Idea discussion	2	0.5h discussion 2h project work
5	**Value proposition** - What problem do you solve? - Whose problem? - Is it painful?	1,3	0.5h seminar 0.5h workshop 2h project work
6	**Project Proposal** - What is your product or service? - Why will people buy? - Where is the market?	2,3	1h presentation 2h project work
7	**Customer profiling** - Who is the customer? - What do you want to learn? - How to reach?	1,3	0.5h seminar 2.5h project work
8-9	**Customer discovery (1)** - What's your hypothesis? - Is the hypothesis valid? - What's the customer feedback? - What's the learning from the feedback?	1,3,5	Read: - *The Startup Owner's Manual* 6h project work - each team must conduct 20 or more customer interviews per week during this period.

10	Progress update & coaching - Findings - Challenges - Approaches	1,3,5	0.5h discussion 2.5h project work
11-12	**Customer discovery (2)** - Product concept test - Reality check - New insight from customer feedback - Verification - Making sense from the learning	3,4,5	6h project work - each team must conduct 20 or more customer interviews per week during this period.
13	**Product design / MVP** What's fastest and easiest thing to make to accelerate validated learning?	1,4,5,6	Read: *The Lean Startup* 0.5h seminar 2.5h project work
14-15	**Product-Market Fit** and **Iteration** Teamwork on product design - Empathy - Design thinking - Prototyping	4,5,6	0.5h seminar 0.5h workshop 2h project work
16	**Channels & customer acquisition** - Physical vs virtual - Direct vs indirect - OEM - B2B, B2C, C2C - Multisided vs omnichannel	4,5,6	2h project work
17	**Revenue model** - Revenue generation - Revenue types - Revenue streams	4,5,6	2h project work
18	**Key Activities** - Priority vs urgency - Outsourcing & focus - Do's and don'ts	4,5,6	2h project work
19	**Resources & Partners** - Talent - VIRO - Strategic choices - Give & take	4,5,6	2h project work
20	**Presenting Business Model** - Product-Market Fit - Pitching	3,4,5,6	1h presentation 1h discussion 1h project work

	- Coaching		
21	**Storytelling** - Who, What, Why, How - The compelling story - Coaching	2,3,7	1h workshop 0.5h discussion 1.5h project work
22	**Business model improvemen**t	4, 6	3h project work
23	**DEMO** - Final presentation	6,7	1h presentation 2h discussion
24	**Learning Reflectio**n - Lessons learned	1,2,3,4,5,6,7	

Appendix

Rubric 1: Knowledge (Interview and Discussion)

	Categories	**High**			**Moderate**				**Low**		
	Score ranges	10	9	8	7	6	5	4	3	2	1
Competence	Knowledge	Able to describe and elaborate most of the facts and concepts taught in the seminars and workshops			Able to describe and elaborate about half of the facts and concepts taught in the seminars and workshops				Unable to describe and elaborate most of the facts and concepts taught in the seminars and workshops		

Rubric 2: Ideation

	Categories	**High**			**Moderate**				**Low**		
	Score ranges	10	9	8	7	6	5	4	3	2	1
Creativity	Originality & innovation (30%)	Demonstrate a unique angle/theme not already done elsewhere			A reinvention of something that has been done before				A direct copy-and-paste of something that has been done before		
Competence	Critical thinking (40%)	Derived a significant depth of insights into the problem or opportunity			Derived sufficient depth of insights into problem or opportunity				Lack of insights into the problem or opportunity		
Communication	Clarity and Organization (30%)	The discussion is succinctly creative and highly engaging			The discussion is succinct and relatively engaging.				The discussion is boring and not engaging.		

Rubric 3: Project Proposal

	Categories	**High**			**Moderate**				**Low**		
	Score ranges	10	9	8	7	6	5	4	3	2	1
Creativity	Originality and innovation (20%)	Demonstrate a unique angle/theme not already done elsewhere			A reinvention of something that has been done before				A direct copy-and-paste of something that has been done before		
Competence	Feasibility (30%)	Sound consideration of the strengths, weaknesses, opportunities, and threats (constraints/ limitations) in relation to the external and internal factors			Some consideration of the strengths, weaknesses, opportunities, and threats (constraints/ limitations) in relation to the external and internal factors				Little consideration of the strengths, weaknesses, opportunities, and threats (constraints/ limitations) in relation to the external and internal factors.		
Competence	Application (30%)	There is clear technical/scientific/logical thinking that underpins the motivations for the project			There is some evidence of technical/scientific/logical thinking				There is a lack of technical/scientific/logical thinking		

Communication	Clarity and organization (20%)	The presentation is succinctly creative and highly engaging	The presentation is succinct and relatively engaging.	The presentation is boring and not engaging.

Rubric 4: Business Model

	Categories	**High**			**Moderate**				**Low**		
	Score ranges	10	9	8	7	6	5	4	3	2	1
Creativity	Originality and innovation (20%)	Demonstrate a unique angle/theme not already done elsewhere			A reinvention of something that has been done before				A direct copy-and-paste of something that has been done before		
Competence	Application (30%)	Excellent efforts in Sourcing and application of suitable tools and integration of resources to design the business model, substantiated by the prototype (if applicable)			Considerable efforts in Sourcing and application of suitable tools and integration of resources to design the business model, supported by the prototype (if applicable)				Poor efforts in Sourcing and application of suitable tools and integration of resources to design business model		
Competence	Problem solving (50%)	Excellent design and quality of the business model supported by evidence including data			Average design and quality of the prototype / business model supported by some evidence including data				Poor design and quality of the prototype / business model supported by some evidence including data		

Rubric 5: DEMO

	Categories	**High**			**Moderate**				**Low**		
	Score ranges	10	9	8	7	6	5	4	3	2	1
Competence	Feasibility (40%)	The product-market fit is evident.			The product-market fit is relatively evident.				The product-market fit is unfounded.		
Competence	Impact (40%	The overall product or solution and the proposed business model will generate significant impact in real life.			The overall product or solution and the proposed business model will generate some impact in real life.				The overall product or solution and the proposed business model will generate minimal impact in real life.		
Communication	Clarity (20%)	Sound consideration of flow and delivery, usage of visual aids etc, highly engaging			Appropriate consideration of flow and delivery, usage of visual aids etc, moderately engaging				Poor consideration of flow and delivery, visual aids used for the sake of using, not at all engaging		

Rubric 6: Learning Reflection

	Categories	High			Moderate				Low		
	Score ranges	10	9	8	7	6	5	4	3	2	1
Competence	Knowledge (40%)	Able to describe and elaborate most of the facts and concepts taught in the seminars and workshops			Able to describe and elaborate about half of the facts and concepts taught in the seminars and workshops				Unable to describe and elaborate most of the facts and concepts taught in the seminars and workshops		
Competence	Critical thinking (40%)	Derived a significant depth of insights into the whole learning journey.			Derived sufficient depth of insights into the whole learning journey.				Lack of insights into the whole learning journey.		
Communication	Clarity (20%)	Sound consideration of flow and delivery, usage of visual aids etc, highly engaging			Appropriate consideration of flow and delivery, usage of visual aids etc, moderately engaging				Poor consideration of flow and delivery, visual aids used for the sake of using, not at all engaging		

Rubric 7: Peer Evaluation

Peer Evaluation will be used to moderate the overall project marks for all team-based assessable components.
All participants need to rate each member in the group (excluding him/herself) on four dimensions by using the 1 to 10 evaluation scale. Input a whole number (no decimals) from 1 to 10 for each dimension.
Reference range: Poor (1-3.9); Average (4.0-7.9); Excellent (8.0-10)

Names of group members	Effort put into the project: The amount of work put into the project, such as coming to meetings on time; contributing ideas; performing assigned duties comprehensively; helping to organize meetings.	Merit of contribution: The strength of contribution, such as the effectiveness of contributions in terms of quality of outputs; creativity of ideas.	Constructive team behaviours: Listens attentively to and seeks inputs from others; helps smooth functioning of the group; respect for others; fosters group camaraderie.	Commitment to the team: Behaves ethically by accepting full responsibility for assigned duties; exhibits group citizenship behaviour, such as helping others when needed; places priority on group meetings.	Average rating: Sum up the ratings and divide by 4.
1.					
2.					
3.					
4.					
5.					
6.					

A brief explanation shall be provided to justify an average rating of less than 8 for each member, if any.
Supporting documents (like emails and screen shots) may be attached to support the explanation.

Take the case of a team which has received a total score of 15 for a component. Through peers' review, student A has received an average rating of 9.2 from the team. He will get 9.2/10 x 15 = 13.8 marks for this component.