Introduction:
The Technology Commercialisation: Lab2Market Course is in its 5th consecutive year and originates from a Technology Innovation Agency (TIA) supported course run in 2009 by Prof. Sue Harrison of the University of Cape Town (UCT)'s Department of Chemical Engineering called, "Translating Technology: from laboratory to marketplace".

In 2012, Prof. Harrison partnered with the University of the Western Cape's Technology Transfer Office to host the Lab2Market Course, which was open to graduate participants from any of the universities in the Western Cape.

2013 saw the four universities in the Western Cape, through their offices for technology transfer, join forces to host the Lab2Market Course. With previous sponsorship from CHEC, TIA, the National Intellectual Property Management Office (NIPMO) and the Provincial Government of the Western Cape, this helped keep course fees affordable to encourage participation amongst budding entrepreneurs at university level.

Target learner profile:
The course is directed at **post-graduate** and **post-doctoral** participants from the **science, engineering and technology faculties** who have an interest in the commercialisation of science-based research outputs. The course also encourages attendance from those interested in technology-based business venture creation or considering a career with an early stage technology-based company at some point in future.

Statement of purpose:
South Africa has internationally recognized strong research-intensive universities which generate considerable research outputs. However, relatively few of these research outputs seem to reach the market place. This may be attributable to poor awareness, understanding and exposure to the concepts of technology commercialization and entrepreneurship, which lead to a weak culture of innovation.

The four Universities in the Western Cape aim to provide an intensive **introductory course** on technology commercialization. The participants gain sound foundational knowledge in various areas including idea valuation, IP protection, the technology due diligence process, methods for market research and technology-based new venture creation. The course also provides invaluable information on assessing the commercial potential and attractiveness of technologies, business plan development, pitching to investors and the overall process of taking technologies from the laboratory to the market place.

Minimum entry level requirements:
Bachelor's level qualification

Course Outcomes:

Participants successfully completing this course will gain:

- an enhanced awareness and understanding of the technology innovation ('invention + commercialization') process and the concept of entrepreneurship
- a clearer understanding of the key concepts involved in commercializing hi-tech technologies, e.g. bio-based technologies
- an understanding of how to assess technologies for their commercial potential and attractiveness
- greater knowledge of the process for taking technologies from the laboratory to market
- a working knowledge and appreciation of the business plan development process
- a better understanding of the role that intellectual property protection plays in the commercialization process

Assessment Methods:

Two Assignments and class participation

Assessment Tasks	**%**
• Class Attendance/Participation	10
• Assignments:	
1. *Prior art and freedom to operate*	30
2. *Business Model Canvas& Financials*	40
3. *Presenting Technologies*	20
Total	**100%**

Course Materials and Equipment:

Power-point Presentations

Electronic Presentation Handouts – may include readings as relevant

Personnel Assigned

Personnel Assigned	***Name***	***Affiliation***
Coordinator/Manager	Ms Valencia Jamalie	UWC
	Ms Naseema Sonday	UWC Technology Transfer Office
	Dr Ana Casanueva	UWC Technology Transfer Office
Moderator	Dr Doug Sanyahumbi	Innovation Management Consultant
	Jaci Barnett	Director Innovation – NMMU
	Ayanda Noma	Director Innovation - UNISA

Date/venue	Lecture	Course Content
Day 1		
16 August 2016 **Venue:** **UCT Upper Campus**	**1** **09h00-10h30**	**1. Course Introduction** **Course background & overview** • Course objectives • Course syllabus • Course assignments **2. Follow on courses & info - TIA** **3. Introduction to Technology Commercialisation and Entrepreneurship** • Overview of Technology Innovation (Innovation Chain, Product/Technology Life Cycle) • Overview of Entrepreneurship • Career possibilities in Technology Management (e.g. patent law, business dev., tech transfer) Participant Introductions and team formations
	10h30 – 10h45	**TEA**
	2 **10h45-11h45**	**Introduction to Intellectual Property Rights:** This session will provide an overview on the basics of Intellectual Property (IP) protection and how this can aid growing a business or other commercialisation strategies. • What are Patents, Trademarks and Copyright protection • When do you have a patentable invention and when should it be protected • How are Patents filed in South Africa and abroad
	3 **11h45-12h45**	**Licensing Intellectual Property** Participants will be taken through the various ways of monetizing technological research. • Introduction to the legal framework for licensing in SA and internationally • Procedures for licensing IP into and out of an organisation • Cross-licensing, cooperation and competition • Linking licensing strategy to IP protection and overall corporate strategy
	12h45 – 13h15	**LUNCH**
	4 **13h15-14h15**	**Technology Transfer at universities** Participants will be taken through the Technology Transfer process and approaches they could take to allow their research to have impact. • IP ownership at Universities (IPR Act, IP policy and benefit sharing) • Technology transfer process (disclosure, due diligence, protection) • IP issues in research (confidentiality, agreements, indigenous resources)
	14h15-14h45	**Entrepreneur presentation** First-hand stories and advice from an entrepreneur or technology transfer professional
	14h45 – 15h00	**TEA**
	15h00-16h00	**Group Work: Assignment 1**

Date/venue	Lecture	Course Content
Day 2		
23 August 2016 **Venue:** **UCT Upper Campus**	**5** **9h00-10h00**	**Idea validation and Technology Business Models** This session covers the various business models for technology start-ups to make money • Models for validating your business ideas and opportunities • Various fundamental models for a start-up company • Case studies
	6 **10h00-11h00**	**Technology and Product Valuation** This session covers standard methodologies for determining the value of a technology and will provide participants with practical tools for valuing technologies. • Technology Valuation • Product Costing: trends in product costing, price erosion versus manufacturing efficiency • Product Pricing: price of technical advantage/innovation, price depending on value delivered to customer, cost-benefit ratio and customer's acceptance
	11h00 – 11h15	**TEA**
	7 & 8 **11h15-12h45**	**Strategising Commercialisation & Entrepreneurial Networks** This session will be divided into 2 parts: • How to develop a strategic plan for commercialisation of technologies: How is development of the technology going to be financed How will this impact the company's capitalisation table . How are founders, investors and management portions divided • The importance of entrepreneurial networks (social capital) How to ensure networking in order to get access to the appropriate resources (investors, lawyers, partners, mentors,…)
	12h45 – 13h15	**LUNCH**
	9 & 10 **13h15-14h45**	**Market Research** Market research is a strategic assessment of the viability of a new product or service in the market. Identifying what and where your market is allows a company to formulate a strategy on how to approach customers before the product or service actually becomes available. This session will speak to aspects of the following: • How is market research conducted • Assessing market attractiveness on a macro and micro level • Industry and Competitor analysis
	14h45 – 15h00	**TEA**
	15h00-16h00	**Group Work: Assignment 1**

Date/venue	Lecture	Course Content
Day 3		
30 August 2016 **Venue:** **UWC**	**11** **09h00-10h00**	**Introduction to a Business Plan** This session will provide sound knowledge on the heart and soul of a new venture – its business plan. Written as much to force discipline on its writers as for its intended audience of potential investors, a business plan must identify and cover the following aspects: • The opportunity, risks and rewards • Resources necessary to achieve the plan • The exit (the vehicle by which the investors realize their financial return) • Means for the plan to continually adapt to the company's learning and the market's evolution
	12 **10h00-11h00**	**Start-up Companies: Company structures & internal resources** This session focuses on the establishment of a start-up company by inventors and/or entrepreneurs and the necessary structures that need to be put in place for a successful venture. • Company structures and resources; governance • Pitfalls and successes
	11h00 – 11h15	**TEA**
	13 **11h15-12h15**	**Entrepreneurial Finance: Start-up companies** Developing financial projections for a company that has not been created yet is one of the great managerial challenges of technology commercialisation. This session focuses on the basics of financial projections for start-ups, and understanding how to calculate the investment capital needed • Financial projections capex, opex, revenue,…) • Cash flow positive • Breakeven
	14 **12h15-13h15**	**Lessons learnt in Start-Up Companies** Those who ignore history are destined to repeat it. The streets are littered with stories of failed technology commercialization projects. The value in these is that we can learn what not to do. In this lecture, some of the most common causes of commercialization failure will be discussed through examples.
	13h15 – 13h45	**LUNCH**
	13h45 - 16h00	**Group Work: Assignment 2**

Date/venue	Lecture	Course Content
Day 4		
6 September 2016 **Venue:** **UWC**	**15** **9h00-10h00**	**Sourcing funding for commercialisation in South Africa** This session focuses of the various funding opportunities in South Africa for commercialisation of technologies– Introducing different types of funders in South Africa Selection criteria of the different funders, what they look for.
	16 **10h00-11h00**	**The Art of Technology Communication** Get ready to present your technology to a potential funder. Learn useful tips and techniques which will help improve your communication skills and secure funding. Understanding the needs of the funder is key.
	11h00 – 11h15	**TEA**
	11h15-13h15	**Group work assignment 3**
	13h15 – 13h45	**LUNCH**
	13h45 – 14h15	**Entrepreneur presentation**
	14h15 – 16h00	**Pitching session and Networking function** Participants can pitch their ideas to a panel of judges. The challenge: explain the project/idea, the return on investment and the growth strategy in less than five minutes.