



MBA M724 Innovation and New Products Summer 2020 Course Outline

Marketing Area DeGroote School of Business McMaster University

COURSE OBJECTIVE

This course will help you understand how innovation and new product development add value to the firm and its stakeholders. The course will discuss in depth the intricacies of innovation and new product development, and the problems faced by managers in this area. This course will equip you with the concepts, tools, methods and approaches relating to management of innovation and new product development. Active participation in this course will provide you with an opportunity to gain practical, real world experience in the application of these tools and approaches. Further, this course will help your ability to communicate your recommendation, ideas or solutions (oral-online and written).

INSTRUCTOR AND CONTACT INFORMATION

Dr. Ashish Pujari, Ph.D.
Professor of Marketing
pujarid@mcmaster.ca
Office Hours: By appointment online

Teaching Assistant (TA): TBA

Course Website: http://avenue.mcmaster.ca

COURSE ELEMENTS

Yes Leadership: Yes IT skills: Yes Global view: Yes Avenue: Participation: Yes Ethics: Yes Numeracy: Yes Written skills: Yes Evidence-based: Group work: Yes Innovation: Yes Yes Oral skills: Yes

Experiential: Yes Guest speaker(s): No Final Exam: No

COURSE DESCRIPTION

Innovation and new product development are keys to corporate growth and even survival. This course is about the management of innovation and new products. Topics covered include: innovation theories, innovation types, innovation diffusion, new products — idea to launch process, critical success factors & the keys to new product success; the new product process — a game plan from idea to launch; getting great new product ideas; picking the winners — project selection & portfolio management; market information and customer input; designing the market launch plan; a new product strategy for the business. This course has a strong practical and applied orientation and is based on an executive course delivered to companies.

Course format: This course will be delivered entirely online on the Zoom platform. This course consists of a combination of lectures, class discussions, case discussions and class exercises. Lectures and class discussions focus on the text and reading materials, and provide the theoretical underpinnings of the course. Management problems, in the form of cases, are assigned to enable the student to apply his/her knowledge.

Global, Economic, Political and Social Perspectives: This course also takes into account the global, political and social perspectives while discussing innovation and new product launch. Companies need to pay attention to several global, economic and social trends:

- Economic Growth and Recession
- Technological (IOT, AI, ML, AR, VR, MR, etc.)
- Social and Environmental Sustainability

Key questions that we need to address include: How a firm's innovation agenda should address not just during the period of growth but also during economic recessionary trends as we face today which may last at least for a couple of years. Should companies increase their R&D budget? Should they launch more or less products during recession? Should companies increase their advertising budget? Should companies focus on radical innovation or incremental innovation? How should these strategies be different for large and small and medium size companies?

How should companies integrate new technological advances in their innovation and NPD strategies and processes? Should they mostly invest in these technologies for efficiency and productivity in their firms, or should they focus on making customer experience better? Or, both? At what cost and ROI?

Social and environmental sustainability issues include challenges such as resource efficiency, dematerialization, reduction of waste, reducing poverty, fair trade, supply chain, emissions leading to improved environmental performance and/or reduced environmental impact of new products coming to the market. How do companies integrate social and environmental sustainability issues in their innovation agenda and develop new products that address these issues? Does sustainable product innovation increase both revenue and societal well-being? How?

LEARNING OUTCOMES

Upon completion of this course, students will be able to complete the following key tasks:

- 1. Understanding theoretical bases of innovation
- 2. Understanding innovation typologies
- 3. Establishing a stage-gate based new product development process in your company
- 4. Formalizing a new product ideas generating process
- 5. Developing a sharp product definition for your future new product ventures
- 6. Putting in place the key metrics to measure NPD success
- 7. Prioritizing your projects to achieve a balanced portfolio that supports value maximization.
- 8. Selecting the right projects to maximize profit potential.
- 9. Building strong links to a robust new product strategy.

ONLINE PLATFORM FOR COURSE DELIVERY

This course will be delivered entirely online on the Zoom platform. You are required to download Zoom on your device.

REQUIRED COURSE MATERIALS

Cases to Purchase:

There is no custom courseware. You are however required to purchase cases from Harvard Business School Publishing. <u>It is mandatory to buy ALL the cases from the link below.</u> Cases for the course will be assigned for each group that will be discussed in the class.

A separate case presentation schedule will be posted on Avenue. This course requires mandatory pre-reading of the cases as a case will be discussed each week in the class as per the schedule.

Link to purchasing the cases from HBS Publishing:

https://hbsp.harvard.edu/import/726126

Books:

There is no required book. Learning materials for this course are based on multiple sources such as books, evidence-based research articles, business press articles, and instructor's own research and consulting experience. However, you are strongly encouraged to have access to the following books. The following two books cover a lot of content:

- Crawford, Merle and Di Benedetto, C. Anthony, *New Products Management*, 8th edition or later, McGraw Hill- Irwin McGraw Hill.
- R. G. Cooper, Winning at New Products- Accelerating the Process from Idea to Launch, 3rd edition, Perseus Books (paperback).

EVALUATION

Learning in this course results primarily from in-class discussion and participation of comprehensive business cases as well as out-of-class analysis. The balance of the learning results from the lectures on strategic concepts, from related readings, and from preparing for your presentations, cases and assignments. All work will be evaluated both on an individual basis and group basis as required. In group work, members will share the same grade adjusted by peer evaluation. Your final grade will be calculated as follows:

Components and Weights

Components	Individual/ Group	Assignment: Case/Exercise/Write -up	Weights	Due Date: (Submit on Avenue)
Assignment 1	Individual	Written Case Exercise	15%	June 19 by 23.59 hrs
Assignment 2	Group	Case Presentation*	20%	As per schedule
Assignment 3	Individual	Written Case Exercise	20%	July 17 by 23.59 hrs
Assignment 4	Group	Written Case Report	30%	August 5 by 23.59 hrs
Class Participation	Individual	In-class Contribution (individual)	15%	Continuous
Total			100%	

Note: *One case presentation per group in the course. Presentation schedule will be posted on Avenue after first week.

ONLINE CLASS ATTENDANCE WITH VIDEO ON

MANDATORY

AVENUE TO LEARN

Avenue to Learn will be used to post all announcements, lecture slides, lecture videos, links to relevant business press articles as well as for submission of assignments by students. Grades and feedback will also be posted on Avenue individually to students or groups.

Avenue: http://avenue.mcmaster.ca

ASSIGNMENTS FOR ASSESSMENT

Assignment 1 (Individual): Case- Four Products: Predicting Diffusion.

Assignment 2 (Group): Case presentation on an assigned case for your group (see presentation schedule on Avenue). Submit your slide deck prior to your presentation on Avenue.

Assignment 3 (Individual): Case- Whiskey and Cheddar: Ingredient Branding at the Casesan Cheese Cooperative

Assignment 4 (Group): Case- Château Margaux: Launching the Third Wine

Note: Guidelines for each assignment will be posted on Avenue.

Class Participation (Individual): This course is delivered entirely online. It is mandatory to attend the class online with your video on so that TA can record attendance and your participation in the discussion and give credit.

Class Participation: Instructor and TA will feel free to **cold-call** on anyone at any time. Hence, it is imperative that you prepare for each and every case and any other course material that helps you in class discussion. In general, contributions are evaluated in an ascending order from physically but not mentally present, to good chip shots, to quite substantial comments, to case cracking contributions. Debate and challenge are important activities that help in the learning process and the willingness of individuals to engage in such activities with their classmates is appreciated. However, using **air-time** involves an obligation to actually contribute. None of us has time for recitation of case facts, bland summaries of prior discussion, and so on, that are devoid of implications. Before you speak, always answer the question **so-what**? Participation will **NOT** be graded by counting each contribution a student makes. Participation will be graded by examining the quality of contributions in each class.

EXAMS

There is no mid-term or final exam in this course.

Grade Conversion

At the end of the course your overall percentage grade will be converted to your letter grade in accordance with the following conversion scheme.

LETTER GRADE	PERCENT	POINTS
A+	90 - 100	12
A	85 - 89	11
A-	80 - 84	10
B+	75 - 79	9
B	70 - 74	8
B-	60 – 69	7
F	00 - 59	0

Calculator:

The use of a McMaster standard calculator is allowed during examinations in this course. See McMaster calculator policy at the following URL:

http://www.mcmaster.ca/policy/Students-AcademicStudies/examinationindex.html

Communication and Feedback

Students that are uncomfortable in directly approaching an instructor regarding a course concern may send a confidential and anonymous email to the respective Area Chair or Associate Dean:

http://www.degroote.mcmaster.ca/curr/emailchairs.aspx

Students who wish to correspond with instructors or TAs directly via email must send messages that originate from their official McMaster University email account. This protects the confidentiality and sensitivity of information as well as confirms the identity of the student. Emails regarding course issues should NOT be sent to the Administrative Assistant.

Instructors are encouraged to conduct an informal course review with students by Week #4 to allow time for modifications in curriculum delivery. Instructors should provide evaluation feedback for at least 10% of the final grade to students prior to Week #8 in the term.

ACADEMIC DISHONESTY

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at:

www.mcmaster.ca/academicintegrity

The following illustrates only three forms of academic dishonesty:

- 1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
- 2. Improper collaboration in group work.
- 3. Copying or using unauthorized aids in tests and examinations

ONLY IF APPLICABLE

In this course we will be using a web-based service (Turnitin.com) to reveal plagiarism. Students will be expected to submit their work electronically to Turnitin.com and in hard copy so that it can be checked for academic dishonesty. Students who do not wish to submit their work to Turnitin.com must still submit a copy to the instructor. No penalty will be assigned to a student who does not submit work to Turnitin.com. All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., on-line search, etc.). To see the Turnitin.com Policy, please go to;

http://www.mcmaster.ca/academicintegrity/turnitin/students/

MISSED ACADEMIC WORK

Missed Mid-Term Examinations / Tests / Class Participation

Where students miss a regularly scheduled mid-term or class participation for legitimate reasons as determined by the Student Experience – Academic (MBA) office, the weight for that test/participation will be distributed across other evaluative components of the course at the discretion of the instructor. Documentation explaining such an absence must be provided to the

Student Experience – Academic (MBA) office within five (5) working days upon returning to school.

To document absences for health related reasons, please provide to Student Experience – Academic (MBA) office the Petition for Relief for MBA Missed Term Work and the McMaster University Student Health Certificate which can be found on the DeGroote website at http://mbastudent.degroote.mcmaster.ca/forms-and-applications/. Please do not use the online McMaster Student Absence Form as this is for Undergraduate students only. University policy states that a student may submit a maximum of three (3) medical certificates per year after which the student must meet with the Director of the program.

To document absences for reasons other than health related, please provide Student Experience – Academic (MBA) office the Petition for Relief for MBA Missed Term Work and documentation supporting the reason for the absence.

Students unable to write a mid-term at the posted exam time due to the following reasons: religious; work-related (for part-time students only); representing university at an academic or varsity athletic event; conflicts between two overlapping scheduled mid-term exams; or other extenuating circumstances, have the option of applying for special exam arrangements. Such requests must be made to the Student Experience – Academic (MBA) office at least ten (10) working days before the scheduled exam along with acceptable documentation. Instructors cannot themselves allow students to unofficially write make-up exams/tests. Adjudication of the request must be handled by Student Experience – Academic (MBA).

If a mid-term exam is missed without a valid reason, students will receive a grade of zero (0) for that component.

Missed Final Examinations

A student who misses a final examination without good reason will receive a mark of 0 on the examination.

All applications for deferred and special examination arrangements must be made to the Student Experience – Academic (MBA) office. Failure to meet the stated deadlines may result in the denial of these arrangements. Deferred examination privileges, if granted, must be satisfied during the examination period at the end of the following term. There will be one common sitting for all deferred exams.

Failure to write an approved deferred examination at the pre-scheduled time will result in a failure for that examination, except in the case of exceptional circumstances where documentation has been provided and approved. Upon approval, no credit will be given for the course, and the notation N.C. (no credit) will be placed on the student's transcript. Students receiving no credit for a required course must repeat the course. Optional or elective courses for which no credit is given may be repeated or replaced with another course of equal credit value. Requests for a second deferral or rescheduling of a deferred examination will not be considered. Any student who is unable to write a final examination because of illness is required to submit the Application for Deferred MBA Final Examination and a statement from a doctor certifying illness on the date of the examination. The Application for Deferred MBA Final Examination and the McMaster University Student Health Certificate can be found on the DeGroote website at http://mbastudent.degroote.mcmaster.ca/forms-and-applications/ Please do not use the online McMaster Student Absence Form as this is for Undergraduate students only. Students who write

examinations while ill will not be given special consideration after the fact.

In such cases, the request for a deferred examination privilege must be made in writing to the Student Experience – Academic (MBA) office within five business days of the missed examination.

Special examination arrangements may be made for students unable to write at the posted exam time due to compelling reasons (for example religious, or for part-time students only, work-related reasons):

- Students who have religious obligations which make it impossible to write examinations at the times posted are required to produce a letter from their religious leader stating that they are unable to be present owing to a religious obligation.
- Part-time students who have business commitments which make it impossible to write examinations at the times posted are required to produce a letter on company letterhead from the student's immediate supervisor stating that they are unable to be present owing to a specific job commitment.

In such cases, applications must be made in writing to the Student Experience – Academic (MBA) office at least ten business days before the scheduled examination date and acceptable documentation must be supplied.

If a student is representing the University at an academic or athletic event and is available at an overlapping scheduled time of the test/examination, the student may write the test/examination at an approved location with an approved invigilator, as determined by the Student Experience – Academic (MBA) office.

In such cases, the request for a deferred examination privilege must be made in writing to the Student Experience – Academic (MBA) office within ten business days of the end of the examination period.

Note: A fee of \$50 will be charged for a deferred exam written on campus and a fee of \$100 for deferred exams written elsewhere. In cases where the student's standing is in doubt, the Graduate Admissions and Study Committee may require that the student with one or more deferred examination privileges refrain from re-registering until the examination(s) have been cleared.

STUDENT ACCESSIBILITY SERVICES

Student Accessibility Services (SAS) offers various support services for students with disabilities. Students are required to inform SAS of accommodation needs for course work at the outset of term. Students must forward a copy of such SAS accommodation to the instructor normally, within the first three (3) weeks of classes by setting up an appointment with the instructor. If a student with a disability chooses NOT to take advantage of an SAS accommodation and chooses to sit for a regular exam, a petition for relief may not be filed after the examination is complete. The SAS website is:

http://sas.mcmaster.ca

POTENTIAL MODIFICATION TO THE COURSE

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.

RESEARCH USING HUMAN SUBJECTS

ONLY IF APPLICABLE

Research involving human participants is premised on a fundamental moral commitment to advancing human welfare, knowledge, and understanding. As a research intensive institution, McMaster University shares this commitment in its promotion of responsible research. The fundamental imperative of research involving human participation is respect for human dignity and well-being. To this end, the University endorses the ethical principles cited in the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans:

http://www.pre.ethics.gc.ca

McMaster University has mandated its Research Ethics Boards to ensure that all research investigations involving human participants are in compliance with the Tri-Council Policy Statement. The University is committed, through its Research Ethics Boards, to assisting the research community in identifying and addressing ethical issues inherent in research, recognizing that all members of the University share a commitment to maintaining the highest possible standards in research involving humans.

If you are conducting original research, it is vital that you behave in an ethical manner. For example, everyone you speak to must be made aware of your reasons for eliciting their responses and consent to providing information. Furthermore, you must ensure everyone understands that participation is entirely voluntary. Please refer to the following website for more information about McMaster University's research ethics guidelines:

http://reo.mcmaster.ca/

Organizations that you are working with are likely to prefer that some information be treated as confidential. Ensure that you clarify the status of all information that you receive from your client. You MUST respect this request and cannot present this information in class or communicate it in any form, nor can you discuss it outside your group. Furthermore, you must continue to respect this confidentiality even after the course is over.

MCMASTER UNIVERSITY VALUES

McMaster University values integrity, inclusiveness and teamwork, and strives to support the personal and collective growth of the McMaster Student Community. As a McMaster student you are a member of a community that values taking responsibility for oneself and towards your fellow community members, creating an environment conducive to the intellectual and personal growth of all who study, work, and live within the McMaster Community - both in-person and online. These expectations are embodied in our Code of Student Rights & Responsibilities ('the Code,' https://secretariat.mcmaster.ca/app/uploads/Code-of-Student-Rights-and-Responsibilities.pdf).

The Code remains in effect in a virtual learning environment. It applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Given that most virtual University functions at this time rely heavily on online platforms (e.g. use of WebEx or Zoom for delivery), disruptions will continue to be addressed and could result in outcomes that restrict a student's access to these platforms. It is essential that students be mindful of their Rights and Responsibilities in their interactions online.

Some helpful information can be found here: https://sscm.mcmaster.ca/

ACKNOWLEDGEMENT OF COURSE POLICIES

Your registration and continuous participation (e.g. on A2L, in the classroom, etc.) to the various learning activities of MBA M724 will be considered to be an implicit acknowledgement of the course policies outlined above, or of any other that may be announced during lecture and/or on A2L. It is your responsibility to read this course outline, to familiarize yourself with the course policies and to act accordingly.

Lack of awareness of the course policies **cannot be invoked** at any point during this course for failure to meet them. It is your responsibility to ask for clarification on any policies that you do not understand.

Privacy

In this course, we will be using **Zoom** and **Avenue to Learn**. Students should be aware that when they access the electronic components of this course, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure.

If you have any questions or concerns about such disclosure, please discuss this with the course instructor.

Course Schedule

MBA M724 Innovation and New Products Summer 2020- Course Schedule

(Tuesday: 2.30 pm-5.20 pm; ONLINE on ZOOM)

WEEK	DATE	LECTURES AND ASSIGNMENTS		
1	Tuesday June 2	 Online Synchronous Learning: Introduction to the Course Innovation and New Products: Conceptualizing innovation and new products/services typologies, NPD process Assignments and Assessments Teams (groups) formation Case Discussion: Acme Soda Pop (available on Avenue) Supplemental Readings: Dhawan, Erica and Chamorro-Premuzic, Tomas (2018), How to Collaborate Effectively if your Team is Remote, Harvard Business Review, February 27. 		
		 Paul J. H. Schoemaker, Sohvi Heaton, and David Teece (2018), Innovation, Dynamic Capabilities and Leadership, <i>California Management Review</i>, Vol. 61(1): 15–42. Note: Final group details are due by June 8. (You are required to 		
2	Tuesday June 9	 submit your group's details (see a group formation template on Avenue) to our TA via email. Online Synchronous Learning: Theories and frameworks of Innovation: Diffusion of innovation New Product/Service Development Process (Stage-Gate Process)-Part 1 Case Presentation/Discussion Supplemental Readings: Merton, Robert C (2013), Innovation Risks, Harvard Business Review, April, pp. 48-96. Bala Iyer and Thomas H. Davenport (2008), Reverse Engineering Google's Innovation Machine, Harvard Business Review, April. 		

		Online Synchronous Learning:
		 Incumbent's advantage or curse
_	Tuesday	 Pioneer's advantage
3	June	Case Presentation/Discussion
	16	Cuse I resentation Discussion
		Online Synchronous Learning:
		Network externalities in innovation
	Tuesday	New Product/Service Development Process (Stage-Gate
4	June	Process)-Part 2
	23	Case Presentation/Discussion
		Cuse I resentation/Discussion
		Online Asynchronous Learning:
		Sources of Innovation: Manufacturer, customer-centric and
		open & closed innovation; outsourcing for innovation;
		Collaboration for innovation
	Tuesday	Online Synchronous Learning:
5	June	Case Presentation/Discussion
	30	Case I resentation/Discussion
		Supplemental Readings:
		Boudreau, Kevin J and Lakhani, Karim R (2013), Using crowd as an
		 innovation partner, <i>Harvard Business Review</i>, April, pp. 60-69. Lance A. Bettencourt and Anthony W Ulwick (2008), The customer-
		centered innovation map, Harvard Business Review, May.
		Online Asynchronous Learning:
		• Concept Generation and New Product Ideas: Methods and
		Approaches
		Concept Testing and Evaluation: Tools and Techniques
	Tuesday	Online Synchronous Learning:
6	July 7	Case Presentation/Discussion
		Supplemental Readings:
		 Jeffrey Cohn, Jon Katzenbach and Gus Vlak (2008), Finding and
		Grooming Breakthrough Innovators, <i>Harvard Business Review</i> , December.
		Online Asynchronous Learning:
		New Product Portfolio Management: Methods and Models
	Tuesday	
7	July	Online Synchronous Learning:
	14	Case Presentation/Discussion

		Online Asynchronous Learnings
	Tuesday	 Online Asynchronous Learning: Design Thinking and Role of Product Design in Product Innovation
		Online Asynchronous Learning:
8	July	 Product economics
	21	 New product demand forecasting
		Setting prices for new products
		Online Synchronous Learning:
		Case Presentation/Discussion
		Online Asynchronous Learning:
		Part A: Commercialisation, New Product Launch and
	Tuesday	Digitalization
	July	Online Synchronous Learning:
9	28	Part B: Commercialisation, New Product Launch and
	20	Digitalization
		Online Synchronous Learning:
		Case Presentation/Discussion
		Online Asynchronous Learning:
		• Part A: Corporate culture for innovation: Capabilities, climate, structure and champions
10	Tuesday	Part B: New product innovation performance: Metrics and measurement
	August 4	Online Synchronous Learning:
		Case Presentation/Discussion
		Supplemental Readings:
		1. Turn customer input into innovation, <i>Harvard Business Review</i> ; Boston; Jan 2002; Anthony W Ulwick, pp 91-97
		 Customers as innovators: A new way to create value, <i>Harvard Business Review</i>; Boston; Apr 2002; Stefan Thomke; Eric von Hippel; pp, 74-81.

ABOUT THE INSTRUCTOR

Dr. Ashish Pujari, Ph.D. is a Professor of Marketing at DeGroote School of Business, McMaster University. He has also served as an associate graduate faculty at the Institute of Management and Innovation, University of Toronto. He has been teaching this course for 20 years. He has extensive experience of teaching in UG, MBA, executive MBA, PhD and DBA programs around the world. At McMaster University, he was nominated twice by MBA students for teaching awards.

A Commonwealth Scholar, Dr. Pujari has been investigating new product, service and business model innovation as well as sustainability issues in organizations at international level for more than two decades. His research investigates how companies integrate sustainability issues in business strategy, marketing and new product innovation as well as understanding the process of developing radically new green products. His research experience stems from his projects in countries such as United Kingdom, Germany, Spain, Italy, Canada and India. His previous research on green NPD in the UK gained considerable external interest and was endorsed by the Environment Unit of Confederation of British Industry (CBI), London. He has published over 50 articles in journals, book chapters and conference proceedings. His research in product and service innovation, and sustainability has been published in leading academic journals such as Journal of Academy of Marketing Science, Journal of Business Ethics, Journal of Product Innovation Management, Technovation, Journal of Business Research and Business Strategy and Environment, and has won scholarly awards including a nomination for faculty research excellence award. He has also received significant research funding from prestigious sources such as SSHRC, Canada and ORDCF (Ontario Research & Development Challenge Fund), Ministry of Research and Innovation, Industrial Research Assistance Program (IRAP), and has also served as an adjudication committee member and as a reviewer for SSHRC, Canada, ESRC, UK and NWO-Dutch Research Council. He works closely with industry participants in his research. He has advised several large and small companies. He was also a founding Director of Sustainable Hamilton (now Sustainable Hamilton Burlington), a non-profit social enterprise. He regularly supervises doctoral and masters students.

An avid sports enthusiast who played for his university teams in swimming and water-polo can now be found on a tennis court when a lockdown isn't enforced.