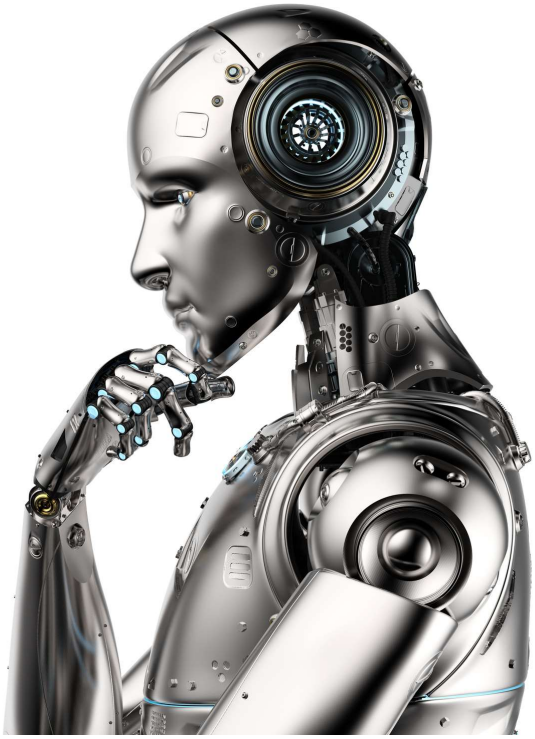
VirginiaTech Invent the Future® Master of Information Technology

# Technology-based Entrepreneurship

The rapid evolution of artificial and machine intelligences is creating immense economic and social opportunities for startups, corporate, and public sector innovators. The purpose of this class is to equip students with the tools, frameworks, and strategies for building leading-edge, AI-focused ventures designed to pursue these opportunities across of variety of organizational forms including commercial startups, internal corporate initiatives, and public sector ventures. Experiential learning activities will be used to support the development of commercialization strategies designed to pursue these opportunities.



The course is organized around a foundational process model of entrepreneurship that blends elements of established frameworks (e.g., customer discovery and JTBD) with emerging developments in AI-powered operating models. Research indicates that between 33-50% of all new ventures will fail within their first few years of operations. One of the key reasons these ventures fail is that they are building products and services that their future customers do not want or need. In previous courses, we have discussed how key differences in the preferences of customers along the technology adoption lifecycle shape how they respond to new technologies. The AI-powered processes we will use in this course build on these insights in a structured, iterative process of engaging with customers in order to determine their critical needs and wants in order to reduce the overall rate of failure.

We will apply these processes to the context of commercializing advanced new AI-powered technologies such as machine learning, blockchain, and other related digital technologies. Although

these digital technologies provide powerful new tools for creating value for customers, the technologies must be designed effectively to reach early adopters. The successful commercialization of these technologies must also be complemented with appropriate business models in order to ensure the long-term economic viability of the venture. Towards this end, we will explore not only how to commercialize new AI-powered technologies but also how AI tools will transform the business venturing process by providing new tools for solving important problems entrepreneurs face when creating and scaling new ventures.

This course will extensively use various experiential learning exercises such as dynamic simulations, customer interviews, venture pitches, etc. to create an active learning environment where every student will have the opportunity to develop and practice new skills that are essential to the business venturing process.

I will not assume that you are walking in the door as an "expert" in the process of entrepreneurship. Nor do I assume that every student is interested in starting their own venture (whether in their current organization or by starting a new one). However, the knowledge and skills you will acquire in this course will be invaluable to you in your career as you continue to explore new opportunities to leverage emerging new technologies to create new sources of value for yourself, your customers, and society-at-large.

## Course Goals

1. Enable students to identify and understand the unique strategic challenges associated with creating and scaling entrepreneurial ventures with a specific emphasis on automation and artificial intelligence (G1)
2. Equip students with concepts, tools, and frameworks at the intersection of the lean startup process and augmented with AI-powered digital technologies to tackle key challenges throughout the entrepreneurial process (G2)
3. Empower students with an entrepreneurial mindset to design and implement innovative automation and AI technologies and business models to create new sources of value of future customers (G3)

To begin, I suggest starting from **Getting Started.** **(https://canvas.vt.edu/courses/172719/pages/getting-started)**

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## Course Objectives

***Upon completion of this course, students will be able to:***

**Course Objectives** (parentheses represent course goals noted above)

Upon completion of the course, the students will be able to:

1. Assess commercial potential of disruptive AI-powered technologies (G1, G2)
2. Utilize customer discovery process to validate AI opportunity spaces (G2)
3. Create a product development roadmap for AI-powered products and services (G2, G3)
4. Design resource mobilization strategies for AI-powered ventures (G2)
5. Integrate AI-powered commercialization strategies into a scalable digital business model (G2)
6. Build and grow AI-powered digital startups, corporate, and public ventures (G2, G3)

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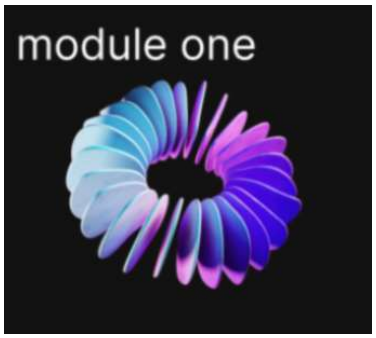
## Course Modules

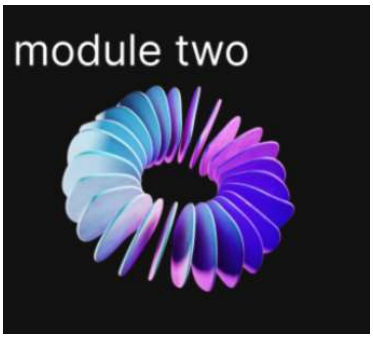
***Please click on the following course modules to have quick acce***

May 22 - May 28




(https://canvas.vt.edu/courses/172719/pages/module-one-technology-based-entrepreneurship-in-the-age-of-artificial-intelligence-part-one)

May 29 - June 4)

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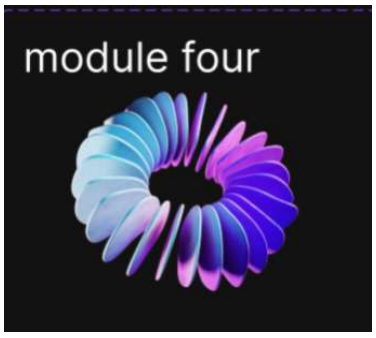
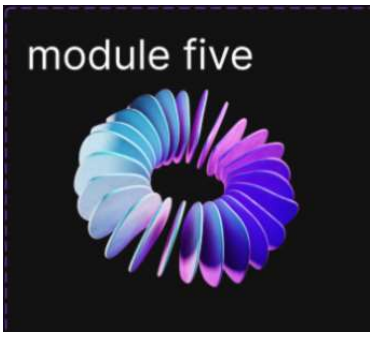
June 12 - June 18




(https://canvas.vt.edu/courses/172719/pages/module-four-generating-new-insights-through-customer-discovery)

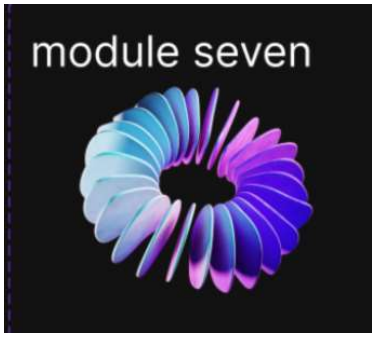
June 19 - June 25




(https://canvas.vt.edu/courses/172719/pages/modul five-validating-customer-value-propositions-throug customer-discovery)

July 3 - July 9

July 10 - July 16

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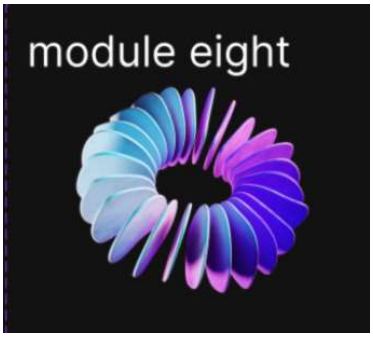
July 24 - July 30

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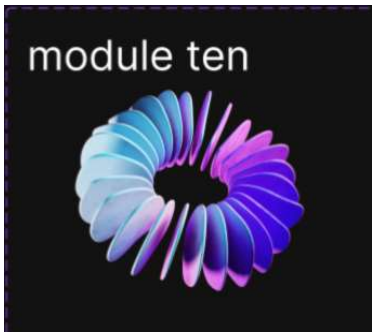
July 31 - August 6

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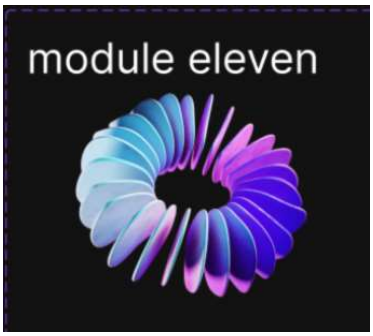


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## Quick Links

***Please click on the following quick links to get more information about the course:***

- Course Syllabus (https://canvas.vt.edu/courses/172719/assignments/syllabus)
- Technology Needed (https://canvas.vt.edu/courses/172719/pages/technology-needed)
- Learner Support (https://canvas.vt.edu/courses/172719/pages/learner-support)
- Privacy (https://canvas.vt.edu/courses/172719/pages/privacy-policies)
- Accessibility (https://canvas.vt.edu/courses/172719/pages/accessibility)
- Mobile Access Disclaimer (https://canvas.vt.edu/courses/172719/pages/mobile-access-disclaimer)

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## Contacting me

***Please feel free to reach out to me with any questions or concerns. You can also post your questions in the Q & A (https://canvas.vt.edu/courses/172719/discussion_topics/1619510) session.***

- Course Instructor: Dr. David Townsend
- Email: dtown@vt.edu
- Office: Room 2090, Pamplin Hall
- Phone: 540-231-4553 (email is always best)
- Details of Contact: We check email constantly, M-F, and will respond as soon as we can. On weekends, we check email once per day and will respond as quickly as we can. We will also respond to Q&A posts all week long. For general questions about class material, please consider posting your question on the class Q&A board so others can see both the question and response