

DA VINCI CENTER FOR INNOVATION

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Garret Westlake
 Executive director

A collaboration of VCU's schools of the Arts, Business, Engineering and College of Humanities and Sciences, the VCU da Vinci Center is a unique collegiate model that advances innovation and entrepreneurship through cross-disciplinary collaboration.

The academic and other program offerings of the da Vinci Center aim to create T-shaped individuals: individuals who are anchored in a discipline and have the capacity and openness to span across disciplines.

Students participating in the da Vinci Center view innovation and entrepreneurship from multiple disciplinary perspectives and, thus, are prepared for the 21st-century workforce by more robustly approaching the innovation/entrepreneurship endeavor.

- Product Innovation, Certificate in (Undergraduate certificate) (<http://bulletin.vcu.edu/undergraduate/da-vinci-center-innovation/product-innovation-certificate/>)
- Venture Creation, Certificate in (Undergraduate certificate) (<http://bulletin.vcu.edu/undergraduate/da-vinci-center-innovation/venture-creation-certificate/>)
- Human-centered design (HCDN) (p. 1)
- Innovation (INNO) (p. 1)
- Venture creation (VNTR) (p. 2)

Human-centered design

HCDN 351. Introduction to Human-centered Design. 1-3 Hours.
 Semester course; 1-3 lecture hours. 1-3 credits. This course explores the human-centered design paradigm from a broad perspective. Students are exposed to human-centered design thinking and experiential client activities. Topics include human-centered design principles, methodologies, user research, data collection and assessment, inspiration, ideation, and implementation phases, and critical- and creative-thinking models.

HCDN 352. Human-centered Design Methods. 1 Hour.
 Semester course; 1 lecture hour. 1 credit. Prerequisite: HCDN 351. This course explores human-centered design methods and an experiential client interaction. Students will be challenged to develop, utilize and assess several ways of knowing and thinking about how to effectively contextualize, formulate, conduct, analyze and disseminate the results derived from particular engagements with human-centered design and their processes in the context of research and design.

HCDN 353. Human-centered Design Through Service Learning. 2 Hours.
 Semester course; 2 lecture hours. 2 credits. Prerequisite: HCDN 352. This course allows students to engage in an experiential nonprofit client scenario working through human-centered design methods that solve a community need specific to social innovation. Lecture is coupled with 20 hours of service-learning client engagement.

HCDN 451. Interaction Design and Prototyping. 3 Hours.
 Semester course; 3 lecture hours. 3 credits. Prerequisite: HCDN 353. Investigates the practice of interaction design using an experiential project-oriented approach. Develops expertise in design, development and critique of solutions for digital platforms and consumer products. Examines issues such as interaction theory, requirements and specifications, design language, prototyping, evaluation, and project presentation.

HCDN 452. Professional Practices. 1 Hour.
 Semester course; 1 lecture hour. 1 credit. Prerequisite: HCDN 353. An overview of professional industry practices, concepts, self-marketing strategies, educational and career options in product innovation and venture creation is presented. Preparing written materials, documenting client work and building a professional portfolio for presentation to potential employers are stressed.

HCDN 491. Special Topics in Human-centered Design. 1-3 Hours.
 Semester course; 1-3 lecture hours. 1-3 credits. May be repeated for a maximum of six credits. Study of current and emerging topics in the field of human-centered design. Topics may vary from semester to semester.

HCDN 492. Independent Study in Human-centered Design. 1-3 Hours.
 Semester course; 1-3 lecture hours. 1-3 credits. Students pursuing a da Vinci Center certificate may repeat for a maximum total of 3 credits. Enrollment restricted to students with junior standing and permission of adviser and da Vinci Center director prior to course registration. Intensive study or research under supervision of a faculty member in an area not covered in depth or contained in the regular curriculum.

HCDN 493. Internship in Human-centered Design. 1-3 Hours.
 Semester course; 1-3 lecture hours. 1-3 credits. May be repeated for a maximum of 3 credits. Enrollment restricted to students who have permission of the certificate director. Supervised pragmatic work experiences. Training is provided under the direction and supervision of qualified professional practitioners.

Innovation

INNO 200. Introduction to Innovation and Venture Creation. 1 Hour.
 Semester course; 1 lecture hour. 1 credit. A speaker series focused on the discussion of pertinent topics related to product innovation and venture creation. Students will be exposed to numerous topics through guest speakers supplemented by readings and class discussion. Topics include conceptualization, patents, capitalization, venture formation, commercialization, market assessment, project management and product life cycle management.

INNO 210. The Innovation Intersection: Industry and Entrepreneurship. 3 Hours.
 Semester course; 3 lecture hours. 3 credits. This course will explore the intersection of industries of innovation and entrepreneurship in the social world we live in. This course will operate as part speaker series, part podcast and part group dialog. Topics include, but are not limited to, innovation in education, systemic exclusion and discrimination, ecosystem building, innovation in health care, equity, access, and funding.

INNO 221. Introduction to Arts and Design Principles. 3 Hours.
 Semester course; 1 lecture and 2 studio hours. 3 credits. Restricted to non-arts students enrolled in the Certificate in Product Innovation program. Introduces arts and design principles to students from non-arts disciplines.

INNO 223. Introduction to Business Principles. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Open only to non-business majors in the Certificate in Product Innovation program. Introduces business fundamentals to students from non-business disciplines. Particular focus will be concepts and issues in contemporary business.

INNO 225. Introduction to Engineering and Technology Principles. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Open only to non-engineering majors in Certificate in Product Innovation program. Introduces engineering and technology fundamentals to students from non-engineering disciplines. Particular focus is the engineering problem-solving process as applied to open-ended problems. Students will be introduced to the different types of engineering, examine engineering and technology issues and apply the engineering problem-solving process.

INNO 351. Creativity for Innovation and Entrepreneurship. 1 Hour.

Semester course; 1 lecture hour. 1 credit. Students are introduced to the role of creativity in innovation and entrepreneurship. A multidisciplinary orientation and approach are emphasized.

INNO 352. Making Innovation Happen. 1 Hour.

Semester course; 1 lecture hour. 1 credit. Students are introduced to the role of innovation in today's society. A multidisciplinary orientation and approach are emphasized.

INNO 353. Making Entrepreneurship Happen. 1 Hour.

Semester course; 1 lecture hour. 1 credit. Students are introduced to the role of entrepreneurship in today's society. A multidisciplinary orientation and approach are emphasized.

INNO 450. Realizing Innovation and Entrepreneurship. 1 Hour.

Semester course; 1 lecture hour. 1 credit. Students will learn how innovation and entrepreneurship are manifested in today's society. A multidisciplinary orientation and approach are emphasized.

INNO 460. Product Innovation: da Vinci Project. 3 Hours.

Semester course; 3 credits. Prerequisite: permission of instructor. Students from the School of the Arts, School of Engineering and School of Business work together on a semester-long product innovation project with a corporate sponsor under faculty supervision. Topics and activities may include project management, team building, concept generation and testing, market analysis, visualization, and prototyping.

INNO 491. Special Topics in Product Innovation. 1-3 Hours.

Semester course; 1-3 lecture hours. 1-3 credits. May be repeated for a maximum of six credits. Enrollment is restricted to students with permission of adviser and da Vinci Center director. Study of current and emerging topics in the field of product innovation. Topics may vary from semester to semester.

INNO 492. Independent Study in Product Innovation. 1-3 Hours.

Semester course; 1-3 independent study hours. 1-3 credits. May be repeated for a maximum total of six credits by students pursuing a da Vinci Center certificate. Enrollment restricted to students with junior standing and permission of adviser and da Vinci Center director. Intensive study or research under supervision of a faculty member in an area not covered in depth or contained in the regular curriculum.

Venture creation

VNTR 300. Venture Creation Skills. 3 Hours.

Semester course; 3 lecture hour. 3 credits. Students are introduced to and apply various skills important for real venture creation. A multidisciplinary orientation and approach are emphasized throughout the course.

VNTR 460. Venture Creation Project. 3 Hours.

Semester course; 3 lecture hour. 3 credits. Students will work in cross-disciplinary teams on a semester-long venture creation project. Topics and activities may include business model generation, customer discovery, customer validation, financial analysis and agile development.

VNTR 491. Special Topics in Venture Creation. 3 Hours.

Semester course; 3 lecture hours. 3 credits. May be repeated for a maximum of six credits. Enrollment restricted to students with permission of adviser and da Vinci Center director prior to course registration. Study of current and emerging topics in the field of venture creation. Topics may vary from semester to semester.

VNTR 492. Independent Study in Venture Creation. 1-3 Hours.

Semester course; 1-3 hours. 1-3 credits. May be repeated for a maximum total of six credits by students pursuing a da Vinci Center certificate. Enrollment restricted to students with junior standing and permission of adviser and da Vinci Center director. Intensive study or research under supervision of a faculty member in an area not covered in depth or contained in the regular curriculum.

VCU Innovate

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Somiah Lattimore

Director

Garret Westlake

Executive director, da Vinci Center

Mission

The mission of the da Vinci Center Innovate Living-Learning Program is to equip innovative student entrepreneurs with a human-centered design foundation to launch new ventures or products through academic course work and co-curricular activities.

Curriculum standards

The da Vinci Center Innovate living-learning program curriculum is designed to provide students with knowledge and skills necessary for employment in a wide range of industries valuing human-centered design. Topics of study include design thinking, problem solving, user experience and interface design, rapid prototyping, innovation, and an entrepreneurial mindset. This knowledge and and these skills are coupled with VCU degrees from the schools of the Arts, Business and Engineering, as well as the College of Humanities and Sciences.

- **Course work:** Students receive a Certificate of Completion in Human-centered Design comprising a minimum of nine undergraduate da Vinci credits and engage in experiential client interaction during their two-year residency.
- **Co-curricular hours:** Students fulfill 60 hours of activities ranging from trips to guest lectures and workshops.
- **Service hours:** Students complete 20 hours of service through a nonprofit client interaction built into their academic course work.
- **Residency:** Students live in the Grace and Broad Resident Center 2 for a two-year term.

Learning outcomes

Upon the successful completion of the da Vinci Center Innovate living-learning program, students will be able to:

- Discover innovative and appropriate ideas using a human-centered design process
 - **Head** (eager, creative, analytic)
- Communicate ideas through visual and verbal stories told with passion and empathy
 - **Heart** (passionate, empathetic, brave)
- Execute ideas using the right tools and technologies\
 - **Hands** (relevant, maker, inventive)

Certificate of completion

Students completing the da Vinci Center Innovate living-learning program receive a nine-credit Certificate of Completion in Human-centered Design, which requires a sequence of the following three tailored one-credit hour courses over a two-year required residency coupled with five credits of da Vinci Center approved electives.

Course	Title	Hours
Required courses		
HCDN 351	Introduction to Human-centered Design	1
HCDN 352	Human-centered Design Methods	1
HCDN 353	Human-centered Design Through Service Learning	2
Approved electives		
Select five credits from the following:		5
HCDN 451	Interaction Design and Prototyping	
HCDN 452	Professional Practices	
HCDN 491	Special Topics in Human-centered Design	
HCDN 492	Independent Study in Human-centered Design	
HCDN 493	Internship in Human-centered Design	
INNO 200	Introduction to Innovation and Venture Creation	
INNO 221	Introduction to Arts and Design Principles	
INNO 223	Introduction to Business Principles	
INNO 225	Introduction to Engineering and Technology Principles	
INNO 491	Special Topics in Product Innovation	
INNO 492	Independent Study in Product Innovation	
VNTR 300	Venture Creation Skills	
VNTR 491	Special Topics in Venture Creation	
VNTR 492	Independent Study in Venture Creation	
Total Hours		9

HCDN 351 is taken in the first semester and HCDN 352 is taken in the second semester during the first year of residency. Students take HCDN 353 in the first semester of the second year, with the

remaining five credits of da Vinci approved electives completed throughout the two-year residency, as mapped out and approved between the da Vinci adviser, Innovate director and the student resident.

Certificate of completion process

All VCU Innovate scholars must complete the curricular, co-curricular and residential requirements for the Certificate of Completion in Human-centered Design on schedule in the intended progression.

- Commit to a two-year residency in the Grace and Broad Residence Center 2.
- Complete the nine-credit Certificate of Completion in Human-Centered Design.
- Complete 60 hours of co-curricular activities and 20 hours of service.

Students who fail to satisfy the program requirements, including living in VCU Innovate on-campus housing, will be removed from the program. Students failing to meet program requirements also may be removed from VCU Innovate housing and relocated to another residence hall. Students are expected to uphold VCU, VCU Innovate and community partner expectations for personal and professional conduct at all times. Any behavior that violates standards of conduct (<http://www.students.vcu.edu/studentconduct/student-code-of-conduct/>) may result in removal from the program and VCU Innovate.

Application process

Students with professional or personal interest, commitment and a passion for innovation and entrepreneurship are sought as residents in the VCU Innovate living-learning program. Full-time VCU students from all majors may apply for the program during their freshman or sophomore years. Rising juniors and seniors with two more years of undergraduate studies remaining may petition the director for entry.

The application deadline is posted on the VCU Innovate website, [innovate.vcu.edu](http://www.innovate.vcu.edu) (<http://www.innovate.vcu.edu>). In addition to completing the admissions application, students must complete a housing contract for the Grace and Broad Residence Center 2 over two consecutive years.

For more information email or call the VCU Innovate living-learning program office at innovate@vcu.edu or (804) 827-1859.