The New Maps Plus online graduate programs at the University of Kentucky offer a challenging, intensive, digital mapping curriculum that emphasizes the acquisition of technical skills—coding, GIS, web development—while also preparing you to critically address the complexity of today’s information ecosystem.

The Department of Geography at the University of Kentucky designed these Graduate Certificate and Master of Science degree programs in digital mapping with all levels of experience in mind. Whether you’re new to open source software or an experienced GIS user, you will benefit from a truly unparalleled online learning experience developed by internationally renowned faculty in a top-ranked geography department.

You will develop the technical skills and design fluency you need to make highly sophisticated web maps that are also elegant and impactful. Perhaps even more importantly, you will learn to think critically about the social dimensions of the maps you make and the data from which you make them. Maps, after all, are powerful things: they shape what we see and what we don’t, with serious implications for how we come to know the world.

The maps we use every day are increasingly designed on and for the web. The turn towards interactivity has changed the tools that map-makers must have at their disposal. In addition to knowledge of desktop GIS, today’s professional map-maker needs skills in Javascript, CSS, and HTML, as well as a growing collection of sophisticated mapping and data visualization libraries and platforms including D3, Leaflet, Carto, Maxar, and many others. New Maps Plus is distinguished from other online GIS programs in that its primary emphasis is on teaching these new and in-demand skills, using distributed software development practices and protocols, such as Github and Markdown.

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is a completely online, 30-credit degree designed for students seeking advanced technical and theoretical training in new geospatial technologies.

Students who decide to continue their digital mapping education can count all credits earned as part of the graduate certificate toward the DIGITAL MAPPING GRADUATE CERTIFICATE IN NEW MAPPING. This curriculum emphasizes both programming and interaction design, ensuring that students emerge from the program well-equipped to make sophisticated, elegant web maps using a variety of platforms. Students will develop the critical awareness required to effectively communicate complex social processes through maps, using industry-standard practices for distributed software development.

COURSES

MAP 577 INTRODUCTION TO WEB MAPPING (3 CREDITS)

This course introduces students to both the social and technical aspects of digital mapping in the 21st century. Students will learn fundamental concepts and techniques in cartography and GIS, including the theory, data classification, map projections, spatial reference systems, and development of cartographic solutions necessary to create interactive web maps. Students will additionally develop fundamental technical competencies necessary to create maps, students will critically engage with the evolution of web mapping and map authoring tools.

MAP 578 WEB MAPPING FOR PROGRAMMING (3 CREDITS)

This course provides the foundation for the fundamental concepts and techniques of web development and computer programming through web mapping. Students will become familiar with basic software development concepts and terminology, as well as the development process for interactive web mapping applications.

MAP 671 INTRODUCTION TO NEW MAPPING (3 CREDITS)

This course outlines key historical and technical developments that have emerged alongside the advent of digital mapping and its potential for social and cultural issues that have historically been underrepresented in cartographic representation. Students will critically engage with the evolution of web mapping and map authoring tools.

MAP 672 COLLABORATIVE GEOVISUALIZATION (4 CREDITS)

This course explores the technical requirements and social processes involved in building and deploying digital mapping solutions. Students will develop the critical awareness required to effectively communicate complex social processes through maps, using industry-standard practices for distributed software development and computer programming through web mapping.

MAP 673 SOCIAL IMPACTS OF NEW MAPPING (3 CREDITS)

This seminar introduces students to both the social and technical aspects of digital mapping in the 21st century. Students will learn fundamental concepts and techniques in cartography and GIS, including the theory, data classification, map projections, spatial reference systems, and development of cartographic solutions necessary to create interactive web maps. Students will additionally develop fundamental technical competencies necessary to create maps, students will critically engage with the evolution of web mapping and map authoring tools.

MAP 674 ANALYSIS AND VISUALIZATION (4 CREDITS)

This course introduces students to both the social and technical aspects of digital mapping in the 21st century. Students will learn fundamental concepts and techniques in cartography and GIS, including the theory, data classification, map projections, spatial reference systems, and development of cartographic solutions necessary to create interactive web maps. Students will additionally develop fundamental technical competencies necessary to create maps, students will critically engage with the evolution of web mapping and map authoring tools.

MAP 675 IMPLEMENTATION (3 CREDITS)

This course outlines key historical and technical developments that have emerged alongside the advent of digital mapping and its potential for social and cultural issues that have historically been underrepresented in cartographic representation. Students will critically engage with the evolution of web mapping and map authoring tools.

MAP 676 DESIGN FOR INTERACTIVE WEB MAPPING (4 CREDITS)

This course introduces students to both the social and technical aspects of digital mapping in the 21st century. Students will learn fundamental concepts and techniques in cartography and GIS, including the theory, data classification, map projections, spatial reference systems, and development of cartographic solutions necessary to create interactive web maps. Students will additionally develop fundamental technical competencies necessary to create maps, students will critically engage with the evolution of web mapping and map authoring tools.

The Master of Science in Digital Mapping is an online 30-credit degree designed for students seeking advanced technical and theoretical training in new geospatial technologies. Students will complete the 9 credits of coursework required for the Graduate Certificate followed by 10 additional credits in which they will significantly expand their skills. Value-added G707 and G708 coursework will prepare students to develop a capstone project intended to showcase their knowledge and abilities under the supervision of UK faculty.