

TECH08065 Web Mapping

Full Title	Web Mapping		
Status	Uploaded to Banner	Start Term	2020
NFQ Level	08	ECTS Credits	05
Module Code	TECH08065	Duration	Semester - (13 Weeks)
Grading Mode	Numeric	Department	Business, Humanities and Tech
Module Author	Emer Crean		
Co Authors	Yvonne McDermott, Pearse McDonnell		

Module Description

The student will be introduced to the technologies that support the construction and delivery of web maps; Client-Server Architecture; Client-side programming: HTML, JavaScript, CSS. The student will review the range of FOSS technologies applicable to Web GIS. Practical skills will include the examination and delivery of web maps over Web Map Platforms Services, the development of story maps, setup of individual web maps from scratch and the usage and deployment of Web Map Services.

Learning Outcomes

On completion of this module the learner will/should be able to:

1. Research and utilise the technologies that support the delivery of web maps.
2. Create a spatially based story map.
3. Establish a web map server.
4. Demonstrate introductory level skills in the use of scripting languages for the delivery of interactive web maps.

Indicative Syllabus

Introduction to Web Map Technologies 10%

The student will examine the fundamentals of web maps; concepts and technologies that support the delivery of maps and applications over the Internet.

Web Map Platform 10%

An overview of web map platforms; development over time, current offerings, practical skills in using web map platforms.

Digital Storytelling with Maps 20%

Overview of story map platforms, case studies, practical experience in creating story maps.

Web Map Standards 5%

Review of Open Geospatial Consortium standards.

Web Map Servers 20%

Overview of map server technologies; database setup for map server deployment, use of FOSS to host a map server.

Programming for the Web 35%

This section will introduce the student to basic web scripting technologies; HTML, CSS, and Javascript, writing a web map page from scratch, how to create a basic web map application.

Teaching and Learning Strategy

This module can be delivered via blended (employing both online and offline), online format or the traditional face-to-face delivery methodology.

Blended delivery format.

The module can be delivered in the blended delivery method using a mixture of online delivery (approx. 75%) and face-to-face engagement (approx. 25%).

Weekly online delivery may consist of live lectures, practicals, webinars, pre-recordings, synchronous and asynchronous discussion forums and open educational resources (OER's), exercises and reading, accounting for approx. 4 hours per week. In addition, other methods may also be used.

Online delivery format.

The module can be delivered in an asynchronous online method. Information concerning the nature and timing of continuous assessment will be reviewed and agreed with learners and external examiners at the beginning of the academic year. Marking criteria, deadlines and expectations will also be provided to the learner in advance as appropriate. Constructive feedback will be provided in a timely manner and in an appropriate format.

Traditional face-to face delivery format.

The module can be delivered in the traditional delivery method using lectures/tutorials (1 hours per week) and lab practicals (3 hours per week).

Assessment Strategy

This module will comprise 100% continuous assessment. The learner will be assessed on their practical ability and theoretical knowledge of web mapping through a combination of practical worksheet tasks, forums, quizzes and practical exams. This is appropriate given the practical nature of the topic.

Information concerning the nature and timing of continuous assessment will be reviewed and agreed with learners and external examiners at the beginning of the academic year. Marking criteria, deadlines and expectations will also be provided to the learner in advance. Constructive feedback will be provided in a timely manner and in an appropriate format.

Repeat Assessment Strategies

Repeat facilities will be accommodated in line with GMT Code of Practice No. 3 Student Assessment: Marks & Standards procedures and in compliance with programme board decisions.

Decisions on nature of assessment will be linked to the need to achieve particular learning outcomes. They may be in the form of a written assessment, practical computer exam, project or other relevant assessment. Individuals may be interviewed or asked to present their work in a formal student conference context to prove authenticity and ownership of work.

Indicative Coursework and Continuous Assessment:		100 %		
<i>Form</i>	<i>Title</i>	<i>Percent</i>	<i>Week (Indicative)</i>	<i>Learning Outcomes</i>
Assessment	Practicals	40 %	OnGoing	1,2
Assessment	Assessment	60 %	OnGoing	3,4

Full Time Delivery Mode Average Weekly Workload:			4.00 Hours		
<i>Type</i>	<i>Description</i>	<i>Location</i>	<i>Hours</i>	<i>Frequency</i>	<i>Weekly Avg</i>
Lecture	Lecture	Laboratory	1	Weekly	1.00
Practical	Practical Work	Laboratory	3	Weekly	3.00

Online Learning Delivery Mode Average Weekly Workload:			4.00 Hours		
<i>Type</i>	<i>Description</i>	<i>Location</i>	<i>Hours</i>	<i>Frequency</i>	<i>Weekly Avg</i>
Lecture	Lecture	Online	1	Weekly	1.00
Practical	Practical Work	Online	3	Weekly	3.00

Blended Delivery Mode Average Weekly Workload:			4.12 Hours		
<i>Type</i>	<i>Description</i>	<i>Location</i>	<i>Hours</i>	<i>Frequency</i>	<i>Weekly Avg</i>
Lecture	Lecture	Online	.5	Weekly	0.50
Practical	Practical Work	Online	3	Weekly	3.00
Practical	Workshop	Laboratory	2.5	Monthly	0.62

Required Reading Book List

Fu, P., (2020). *Getting to Know Web GIS*. Getting to Know.
ISBN 1589485920 ISBN-13 9781589485921

Recommended Reading Book List

Dorman, M., (2020). *Introduction to Web Mapping*. 1st Edition. CRC Press.

Iacovella, S., (2017). *GeoServer Beginner's Guide*. Packt Publishing Ltd.
ISBN 9781788294072 ISBN-13 1788294076

Online Resources

Story Maps: [ESRI](#), [Knight Lab](#)

[Scripting Tutorials](#)

Mapping Libraries and Tutorials: [Leaflet](#), [ESRI](#)

[PostgreSQL](#), [PostGIS](#)

Map Servers: [Geoserver](#), [MapServer](#)

[Geospatial Knowledge Base Training Platform](#)

Programme Membership

GA_SGISC_S08 202000 Certificate in Digital Mapping and Geographical Information Systems