

# Course Outline (Higher Education)

<b>School:</b>	School of Science, Psychology and Sport
<b>Course Title:</b>	GEOGRAPHIC INFORMATION SYSTEMS
<b>Course ID:</b>	SCENV2600
<b>Credit Points:</b>	15.00
<b>Prerequisite(s):</b>	A minimum of 15 credit points from SCENV coded courses or approved alternative
<b>Co-requisite(s):</b>	Nil
<b>Exclusion(s):</b>	Nil
<b>ASCED:</b>	019999

**Description of the Course:**

Geographic Information System (GIS) is an important tool in natural resources management that is used to display and analyse spatial information. This course examines the use of maps, spatial information capture, GIS and the application of a GIS to assist with the solution of natural resource management problems.

**Grade Scheme:** Graded (HD, D, C, P, MF, F, XF)

**Work Experience:**

No work experience: Student is not undertaking work experience in industry.

**Placement Component:** No

**Supplementary Assessment:** Yes

Where supplementary assessment is available a student must have failed overall in the course but gained a final mark of 45 per cent or above and submitted all major assessment tasks.

**Program Level:**

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Introductory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intermediate	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advanced	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Learning Outcomes:**

Students undertaking this course are expected to be able to demonstrate the following knowledge and skills.

**Knowledge:**

- K1.** Justify the use of maps in natural resource management
- K2.** Interpret the role of Geographic Information Systems (GIS) in natural resource management
- K3.** Define the use and limitations of remote sensing techniques
- K4.** Define the components, use and limitations of the Global Positioning System (GPS)

**Skills:**

- S1.** Use topographic maps, compasses and GPS receivers to record locations and navigate
- S2.** Examine and interpret aerial photographs
- S3.** Build spatial datasets

**Application of knowledge and skills:**

- A1.** Use GIS to produce high quality printed maps
- A2.** Perform basic spatial analysis of data using GIS
- A3.** Use GIS to assist with a decision making process
- A4.** Incorporate spatial information collected using GPS into GIS to create spatial layers

**Course Content:**

Geographic Information System (GIS) is an important tool in natural resources management that is used to display and analyse spatial information. This course examines the use of maps, spatial information capture, GIS and remote sensing in natural resource management.

Topics may include:

- Map interpretation
- Use of Global Positioning Systems
- Use of GIS software
- Map production
- Basic aerial photograph interpretation

**Values:**

- V1.** Appreciate the uses and limitations of GIS for natural resource management
- V2.** Appreciate the uses and limitations of digital remote sensing for natural resource management
- V3.** Value the importance of high quality digital spatial data in natural resource management
- V4.** Appreciate the uses and limitations of the Global Positioning System

**Graduate Attributes**

The Federation University FedUni graduate attributes (GA) are entrenched in the [Higher Education Graduate Attributes Policy](#) (LT1228). FedUni graduates develop these graduate attributes through their engagement in explicit learning and teaching and assessment tasks that are embedded in all FedUni programs. Graduate attribute attainment typically follows an incremental development process mapped through program progression. **One or more graduate attributes must be evident in the specified learning outcomes and assessment for each FedUni course, and all attributes must be directly assessed in each**

**program**

Graduate attribute and descriptor		Development and acquisition of GAs in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
GA 1 Thinkers	Our graduates are curious, reflective and critical. Able to analyse the world in a way that generates valued insights, they are change makers seeking and creating new solutions.	K1 K2 K3 K4 S1 S2 S3 A3	3 3 3 3 3 3 1, 3
GA 2 Innovators	Our graduates have ideas and are able to realise their dreams. They think and act creatively to achieve and inspire positive change.	A2 A4 S3	2,3 3 2,3
GA 3 Citizens	Our graduates engage in socially and culturally appropriate ways to advance individual, community and global well-being. They are socially and environmentally aware, acting ethically, equitably and compassionately.	K1 K2	3 3
GA 4 Communicators	Our graduates create, exchange, impart and convey information, ideas, and concepts effectively. They are respectful, inclusive and empathetic towards their audience, and express thoughts, feelings and information in ways that help others to understand.	S3 A1 S2	2,3 1,3 3
GA 5 Leaders	Our graduates display and promote positive behaviours, and aspire to make a difference. They act with integrity, are receptive to alternatives and foster sustainable and resilient practices.	K1 K2 K3	3 3 3

**Learning Task and Assessment:**

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1, S1, S2, S3, A1, A4	Map composition	Map composition	10-30%
K1, S1, S2, S3, A3	Vector GIS analysis worksheet	Vector GIS analysis worksheet	10-30%
K1, K2, K3, K4, S1, S2, S3, A1, A2, A3, A4	Major Project: Creating database of GPS points; Vegetation mapping using aerial photo interpretation; Impact assessment of proposed development.	Project	50-70%

**Adopted Reference Style:**

Other (Austral Ecology)

Refer to the [library website](#) for more information

Fed Cite - [referencing tool](#)