# UNIVERSITI TEKNOLOGI MARA

**BTP153: GIS APPLICATION**

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| **Course Name (English)** | GIS APPLICATION `APPROVED` |
| **Course Code** | BTP153 |

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| **MQF Credit** | 2 |

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| **Course Description** | The subject focuses on the application of GIS. Students will assume the role of GIS project managers, whereby they will be involved in designing, conducting and analysing GIS projects. Student will select a suitable area (district, local authority boundary) for this project. |

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| **Transferable Skills** | Demonstrate ability to identify and articulate self skills, knowledge and understanding confidently and in a variety of context. Demonstrate ability to manage personal performance to meet expectations and demonstrate drive, determination, and accountability. Demonstrate ability to communicate clearly and confidently, and listen critically. |

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| **Teaching Methodologies** | Lectures, Lab Work, Tutorial |

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| **CLO** | CLO1 | Ability to obtain and comprehend the technique of GIS application on town and regional planning and management |
| | CLO2 | Ability to acquire knowledge in environmental interpretation and its significance in town and regional panning and management by using GIS |
| | CLO3 | Ability to demonstrate site skill in collecting information using GIS analysis for town and regional planning and design |
| | CLO4 | Ability to generate ideas for planning interpretation using various GIS techniques and media |

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| **Pre-Requisite Courses** | No course recommendations |

## Topics

**1. Collection of Secondary Information**
1.1) Gather maps and associated data from various agencies as a preparation for GIS project.

**2. Creating Digital Maps And Attribute Data**
2.1) Convert conventional maps to digital maps and associated data to attribute data

**3. Constructing Topology**
3.1) Checking for errors in digital maps and transforming the maps into GIS topology.

**4. Creating a GIS Database**
4.1) Attribute data will be linked to spatial maps to create a GIS database.

**5. Performing GIS Analysis**
5.1) Data Capture.
5.2) Access the GIS database to conduct query, overlay, buffer, network and terrain analysis.

| Assessment Breakdown | % |
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| Continuous Assessment | 100.00% |

| Details of Continuous Assessment | Assessment Type | Assessment Description | % of Total Mark | CLO |
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| | Assignment | n/a | 100% | CLO1 , CLO2 , CLO3 , CLO4 |

| Reading List | Reference Book Resources | |
|---|---|---|
| | | • American Society for Photogrammentry and Remo 1987, *GIS 87.*, Falls Church, Virginia. |
| | | • Avery, T. W. and Berlin G.L 1985, *Introduction to Aerial Photography,*, Minneapolis : Burgee Publication Company. |
| | | • Burrough, P. A. 1986, *Principles of GIS Land Resources Assessment*, Oxford : Clarendon Press. |
| | | • Environmental Systems Research Institute, Inc 1992, *Understanding GIS*, The ARCinfo Melthod, Redland, California |
| | | • Longley P.A et al 2005, *Geographical Information Systems: Principles,*, 2 Ed., John Wiley & Sons; |
| | | • Monmonier Mark, S. 1985, *Technological Transition in Cartography,*, Madison : The University of Wisconsin press. |
| | | • Ripple, William J, 1987, *GIS for Resource Management : A Compendium,*, Falls Church, Virginia : American Society for |
| | | • Tomlinson, R 2007, *Thinking about GIS: Geographic Information Sy*, ESRI Press; Revised edition. |
| | | • Scally, R 2006, *GIS for Environmental Management*, ESRI Press |
| | | • Hall, P. 1982, *Computer Assisted Cartography Principles an*, Inglewood : Prentice Hall. |
| **Article/Paper List** | This Course does not have any article/paper resources | |
| **Other References** | This Course does not have any other resources | |