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| Faculty | Management and Social Sciences | |
| Department | Sociology | |
| Course Title | Geographical Information Sensing (GIS) | |
| Year of Study | 4 | |
| Course Code | CSS 419 | |
| Credit Hours | 2 | |
| Contact Hours | 30 | |
| Mode of Delivery | Classroom Lectures | |
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| Mode of Assessment | | Weight% |
| Continuous Assessment | | 30% |
| Final Examination | | 70% |
| Total | | 100% |
| Course Lecture/Instructor | Dr Ameh Musa | |
| Course Description | Remote Sensing systems, imageries across the spectrum, image acquisition, image restoration and enhancement, image processing and interpretations, image storage and retrieval formats | |
| Course Objectives | <p>At the end of this course students should be able to know:</p> <ul style="list-style-type: none"> i. Define the concept of geographical information Systems (GIS) ii. Identify various remote sensors iii. Know the importance of remote sensors to criminologists iv. Identify various platforms and sensors v. Differentiate various sensors with their functions and components | |

| Learning Outcomes | <p>At the end of the Course work, students are expected to:</p> <ol style="list-style-type: none"> i. Define the concept of geographical information Systems (GIS) ii. Identify various remote sensors iii. Know the importance of remote sensors to criminologists iv. Identify various platforms and sensors <p>Differentiate various sensors with their functions and components</p> | |
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| Teaching and Learning | The class will meet for two hours each week. Class time will be used for a combination of lectures and practical sessions | |
| Detailed Course Content | | |
| Course Content Sequencing | | |
| Weeks | Detailed Course Outline | Allocated Time |
| Week 1 | <p>Introduction to Remote Sensing and Geographical information System</p> <ul style="list-style-type: none"> • Understanding the concept of remote sensing and Geographical information system • Historical background of Remote sensing and Geographical information system • Importance of remote sensors to criminologists | 2 hours |
| Week 2 | <p>Overview of Remote Sensors</p> <ul style="list-style-type: none"> • Definition and process of Remote Sensing • Types of Remote Sensors • Classifications of Remote Sensors | 2 hours |
| Week 3 | <p>Platforms and Sensors</p> <ul style="list-style-type: none"> • Conceptual Definition of Platforms | 2 hours |

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| | <ul style="list-style-type: none"> • Types of Platforms: <ul style="list-style-type: none"> i. Ground borne ii. Air borne and iii. Space borne • Functions of platforms | |
| Week 4 | Wave Length Regions <ul style="list-style-type: none"> • Wave length conceptual meaning • Importance of wave length to Remote Sensing • | 2 hours |
| Week 5 | Electromagnetic Spectrum <ul style="list-style-type: none"> • Definition of concept • Electromagnetic radiation • Characteristics of electromagnetic radiation | 2 hours |
| Week 6 | Imaging Sensor System <ul style="list-style-type: none"> • Definition of imaging sensor system • Classification of imaging Sensor systems: <ul style="list-style-type: none"> i. Multispectral imaging sensors systems ii. Thermal remote sensing system iii. Microwave rader sensing systems | 2 hours |
| Week 7 | Theory <ul style="list-style-type: none"> • Overview of information system • GIS definition and terminology • Geographical entities | 2 hours |
| Week 8 | Models <ul style="list-style-type: none"> • Definition of models | 2 hours |

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| | <ul style="list-style-type: none"> • Types of models • Characteristics of models | |
| Week 9 | Components of GIS <ul style="list-style-type: none"> • Hardware components • Software components • Functions | 2 hours |
| Week 10 | Geographical information sensing Workflow process <ul style="list-style-type: none"> • Input flow • Output work flow • Procedural perspective | 2 hours |
| Week 11 | Map as model <ul style="list-style-type: none"> • Spatial element • Terminology • Classifications of map | 2 hours |
| Week 12 | Course Conclusion and Future Trends <ul style="list-style-type: none"> • Recap of key concepts and topics covered • Emerging trends in media and the court in Nigeria • Final presentations or projects by students | |
| Week 13 | Revision | |
| Week 14 | Examination | |

RECOMMENDED MATERIALS

Week 1: Anji Reddy, Remote Sensing and Geographical Information Systems, BS Publications 2001.

Week 2: M.G. Srinivas, Remote Sensing Applications, Narosa Publishing House, 2001.

Week 3: Lillesand T.M. and Kiefer R.W. Remote Sensing and Image Interpretation, John Wiley and

Sons, Inc, New York.

Week 4: Janza.F.J., Blue, H.M., and Johnston, J.E., Manual of Remote Sensing Vol.I, American Society of Photogrammetry, Virginia, U.S.A, 1975.

Week 5: Barrow., G. M., 1962, Introduction to Molecular Spectroscopy, New York, McGraw-Hill.

Week 6: Mather, P. M., 1987, Computer Processing of Remotely Sensed Images: An Introduction, John Wiley & Son.

Week 7: Fisher., J., 1989, The pixel, a snare and a delusion, International Journal of Remote Sensing, 18, pp. 679-685

Week 8: Hunt., G. R, Salisbury, J. W., and Lenyoff, C. J., 1973, Visible and Near Infrared Spectra of Minerals and Rocks. V11. Acidic Igneous Rocks, Modern Geology, Vol. 4, pp 217-224.

Week 9-12: Curran., P., 1989, Principles of Remote Sensing, Longman, London.

Week13: Revision

Week 14: Examination