MANGALORE UNIVERSITY

DEPARTMENT OF MARINE GEOLOGY

MSc GEOINFORMATICS

GIH 403: COMPUTER SCIENCE AND WEB DESIGNING

Course Outcome:

CO1: They will learn about computers, development of computers, Hardware and Software.

CO2: Apply algorithmic, mathematical and scientific reasoning to a variety of computational problems related to geosciences.

CO3: Create Geodatabases and web pages

CO4: Identify the theoretical and methodological foundations of programming including C, C++ and Python.

CO5: Work on hands-on analytical skills in C, C++ software packages.

CO6: To relate computer science to geo-spatial applications

CO7: An ability to communicate effectively with a range of audiences

CO8: Image processing techniques from Computer Science to turn the data into information.

Unit 1	**Basics of Computers:** An introduction to computers, development of computers, Hardware and Software. Fundamentals of Computers—operating systems, input devices, output devices, storage devices-primary, secondary, central processing unit, computer languages, translators.	08 hrs
Unit 2	**Information Super Highway:** Introduction to Internet. Scope of Internet. Equipment required for an Internet Connection. Electronic Mail. Concepts of Information Storehouse. Surfing the Net. Browsing the WWW. Search Engines and their applications. Application of internet to Geoinformatics. Introduction to networks, Local area network devices, topologies, protocols, wide area networks, servers, hubs, nodes, moderns, Internet.	08 hrs
Unit 3	**Web design: HTML:** Basic & advanced HTML, Types of tags, Document creations, Linking, Creating Link List, handling Images, tables and, style sheets. Types of tags, Creating hypertext links. Formatting the text	08 hrs

	(example). Creating Image Links. Outlines of Python.	
Unit 4	**Microsoft Power Point:** Introduction to Microsoft Power Point. Functions and Exploring Power Point Views. Creating a Presentation. Delivering and Printing a Presentation. Animations and Slide Show applications to Geoinformatics	08 hrs
Unit 5	**Microsoft Excel:** Functions of Microsoft Excel. Starting Microsoft Excel. Excel Work Environment. Changing the Size of a Workbook and Excel Window. Cell and Cell address. Standard Toolbar. The Formatting Toolbar. The Formula Bar. Components of an Excel Workbook. Moving Data, Copying Data, Relative Cell Addressing, Absolute Cell Addressing. Formulas using Numbers. Simple graphs. Functions and Applications of Microsoft Excel to Geoinformatics.	08 hrs
Unit 6	Outlines of 'C' and Introduction to C++.	08 hrs

References

1. Beekman, G. 1999, Computer Confluence: Exploring Tomorrow's Technology. Addison-Wesley, Reading, MA. (3rd. ed).
2. Willis H. Means19087**A content analysis of six introduction to computer science textbooks** ACM New York, NY, USA, 403 - 413
3. Beekman, G. George Beckman 2000 Tech Nation. Online. Internet. [March 14,]. Available WWW:http://www.computerconfluence.com/about/tech.htm
4. Cheryl SchmidtComplete 19908, Computer Repair Textbook, Scott Jones, 22-408.
5. Dix, A., Finlay, J., Abowd, G., and Beale, R. 1999. Human-Computer Interaction. Prentice-Hall, Herts. UK. 67-089.
6. Goldberg, M. W. CALOS: Feb, 1997), First Results From an Experiment in Computer-Aided
7. Learning for Operating Systems, in Proceedings of the Twentyeighth SIGCSE Technical Symposium on Computer Science Education. ACM Press. 408-52.
8. Goldberg, M. W. WebCT and First Year Computer Science June, 1997: Student Reaction to and Use of a Web-Based Resource in First Year Computer Science, in Proceedings of the ACM's ITiCSE Conference on Integrating Technology into Computer Science Education. ACM Press. 127-129.
9. Shelly Cashman 2000, Course Technology. About Shelly Cashman Series. Online. Internet.

[March 14,]. Available WWW: Http://www.scseries.com/about_sc.cf