



# University of Pretoria Yearbook 2020

## Netcentric computer systems 216 (COS 216)

|                               |                                                                                                                                 |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Qualification</b>          | Undergraduate                                                                                                                   |
| <b>Faculty</b>                | <a href="#">Faculty of Engineering, Built Environment and Information Technology</a>                                            |
| <b>Module credits</b>         | 16.00                                                                                                                           |
| <b>Programmes</b>             | <a href="#">BIS Multimedia</a><br><a href="#">BSc Computer Science</a><br><a href="#">BSc Information and Knowledge Systems</a> |
| <b>Prerequisites</b>          | COS 110                                                                                                                         |
| <b>Contact time</b>           | 1 practical per week, 4 lectures per week                                                                                       |
| <b>Language of tuition</b>    | Module is presented in English                                                                                                  |
| <b>Department</b>             | Computer Science                                                                                                                |
| <b>Period of presentation</b> | Semester 1                                                                                                                      |

### Module content

This module will introduce the student to netcentric systems by focusing on the development of systems for the web, mobile devices and the cloud. To lay the foundation on which the rest of the module can follow, traditional web-based programming languages such as HTML5, JavaScript, CSS and Python will be covered differentiating between client-side and server-side computation. Persistence of web-based data will be included for both client and server-based computation. These technologies will be extended and applied to mobile platforms where the availability of a connection, location-services and mobile device limitations play a role. For cloud platforms, aspects relating to task partitioning, security, virtualisation, cloud storage and access to the shared data stores, data synchronisation, partitioning and replication are considered. In order to practically demonstrate that a student has reached these outcomes, students will be required to use, integrate and maintain the necessary software and hardware by completing a number of smaller practical assignments where after integrating all these technologies into a comprehensive and practical programming project is required.

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