Course Title:	**Microservices**
Course Code:	**INFS605**
Descriptor Start Date:	**01/01/2022**
Descriptor End Date:	**30/01/2023**
POINTS:	**15.00**
LEVEL:	**6**
PREREQUISITE/S:	**None**
COREQUISITE/S:	**None**
RESTRICTION/S:	**None**

LEARNING HOURS

Hours may include lectures, tutorials, online forums, laboratories. Refer to your timetable and course information in Canvas for detailed information.

Total learning hours: 150

PRESCRIPTOR

Microservices is a major architectural design pattern for highly available, scalable and maintainable software. This paper covers the microservices based software design and development and deployment concepts with a focus on the features and facilities of the microservices environments.

LEARNING OUTCOMES

1. Analyse, design and specify service-oriented software systems with microservices architecture
2. Select and apply microservice design patterns in appropriate situations
3. Develop microservices based application with a focus on non-functional requirement
4. Address DevOps demands by microservices deployment

CONTENT

Microservice architectures and design patterns: concepts and technologies for software architecture, design, development and deployment:
- Microservices and service oriented architectures – motivations
- Microservice core concepts, frameworks and service orchestration
- Microservices development environments
- Design patterns for microservices
- Microservices communication models
- Services, service discovery, APIs and service versioning
- DevOps and services deployment
- Microservices database transactions
- Microservices security
- Monitoring, measuring and observability

LEARNING & TEACHING STRATEGIES

Lectures and classroom discussion in which topics will be related to relevant needs, Handouts, Worksheets, Role plays, Practical assignments and simulated exercises, Assignments, PowerPoint presentations, Portfolio, Case studies, Tests, Research.

ASSESSMENT PLAN

Assessment Event	Weighting %	Learning Outcomes
Coursework – session-based assignment	60.00	1,2,4
Programming assignment	40.00	3

Grade Map **MAP1**

A+ A A- Pass with Distinction
B+ B B- Pass with Merit
C+ C C- Pass
D Fail

Overall requirement/s to pass the course:

To pass the course, the student needs to obtain a grade of C- overall and a minimum of 35% in each assessment event.

LEARNING RESOURCES

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For further information, contact: Te Ara Auaha - Faculty of Design & Creative Technologies

Principal Programme:	**AK3697, Bachelor of Computer and Information Sciences**
Related Programme/s:	**AK3706** **AK3003**