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Unit Summary (SIT215)

Unit Content 2020 Timetable

W #	Starts	Topic	Assessment deadlines
1	13 July	Rule-based Expert Systems	
2	20 July	Fuzzy Logic	
3	27 July	Bayesian AI	
4	03 Aug	Artificial Neural Networks	Due: PBL Task 1
5	10 Aug	State Space Search	
		Trimester Break ☺: 17th –23rd Aug	
6	24 Aug	Normative Decision Theory	Due: PBL Task 2
7	31 Aug	Game Theory	
8	07 Sep	Meta-heuristic Optimisation	Due: PBL Task 3
9	14 Sep	Markov Decision Processes	
10	21 Sep	Dynamic Programming	
11	28 Sep	Unit Review	Project Submission

To Study SIT215

- **Pre-requisite(s)**
  - SIT192: Discrete Mathematics
  - SIT112: Data Science Concepts
  - SIT114: Introduction to Artificial Intelligence
- **Co-requisite:**
  - SIT221: Data Structures and Algorithms

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Components

- **Delivery of the materials**
  - Online Lecture (1hour/week): Mondays 12:00 pm -1:00 pm
  - Online Seminar (3hours/week): Tuesdays 11:00 am - 1:50 pm
- **Tests**
  - Three PBL Tasks (Week 4, 6, and 8)
    - PBL Task-1: **Group** assessment task
    - PBL Task-2: **Group** assessment task
    - PBL Task-3: **individual** assessment task
  - Project: **individual** assessment task (due at the end of 11 week)
  - No exam this Year

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Unit Learning Outcomes

At the completion of this unit students can:

- **ULO1:** Apply specific algorithms and data structures to model a range of problems arising in intelligent systems development
- **ULO2:** Design and implement software artefacts to demonstrate effectiveness and efficiency of solutions for intelligent systems development
- **ULO3:** Apply theoretical concepts and models to explain and communicate the design of intelligent systems

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Your PBL Tasks

1) PBL Task 1: Fuzzy Car Control (**Group**) (20% of the total mark)
   - Due date: end of week-4 (Aug 8th 2020, 8:00 pm)

2) PBL Task 2- A Knights Tour (**Group**) (20% of the total mark)
   - Due date: end of week-6 (Aug 22nd 2020, 8:00 pm)

3) PBL Task 3- Game of Nim (**Individual**) (20% of the total mark)
   - Due date: end of week-8 (Sep 5th 2020, 8:00 pm)

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What is PBL

- Problem Based Learning (PBL) is a Student-centred pedagogy
  - Students learn about a subject
  - Through the experience of solving an open-ended problem

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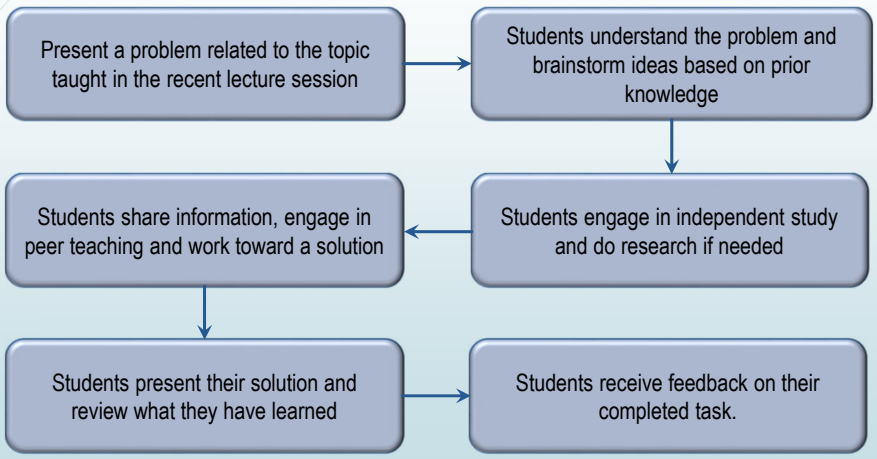
PBL Process



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PBL Process

- Does not focus on problem solving with a defined solution
- But it allows for the development of
  - Knowledge acquisition,
  - Enhanced group collaboration and
  - Communication

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PBL Process…

- Allows for learners to develop skills used for their future practice
- It enhances
  - Critical appraisal
  - Literature retrieval and
  - Encourages ongoing learning within a team environment

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PBL Task

- Identifying - what you already know

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PBL Task

- Identifying - what you need to know

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PBL Task

- Identifying - **HOW** and **WHERE**
  - To access new information
  - That leads to the solution

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PBL Task

- Group task – 5/6 students per group.
- Students need to group up **today** to start working on the first PBL task next week.
- Present the output on due date during the weekly seminar.
- Steps and suggestions
  - Start early
  - Understand problem
  - Determine what the group know
  - Determine what the group need to know
  - Identify where and how to access information for solving the problem

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Project

- This assessment item contributes 40% to the final unit mark
- Due date: end of week-11 (Sep 26th 2020, 8:00 pm)
  - Do not wait for a starting date (countdown started already!)
  - Follow the same process as PBL task.
  - **Individual task:** You have to do it yourself instead of group.

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Programming Language

- Not specified – means you can use any of them.
- For beginners:
  - We suggest you to use MATLAB or Python.
  - The School of IT HelpHub supports students studying SIT units.
  - Timetable for the classes can be found in the following Site: https://d2l.deakin.edu.au/d2l/home/965803

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Thank You