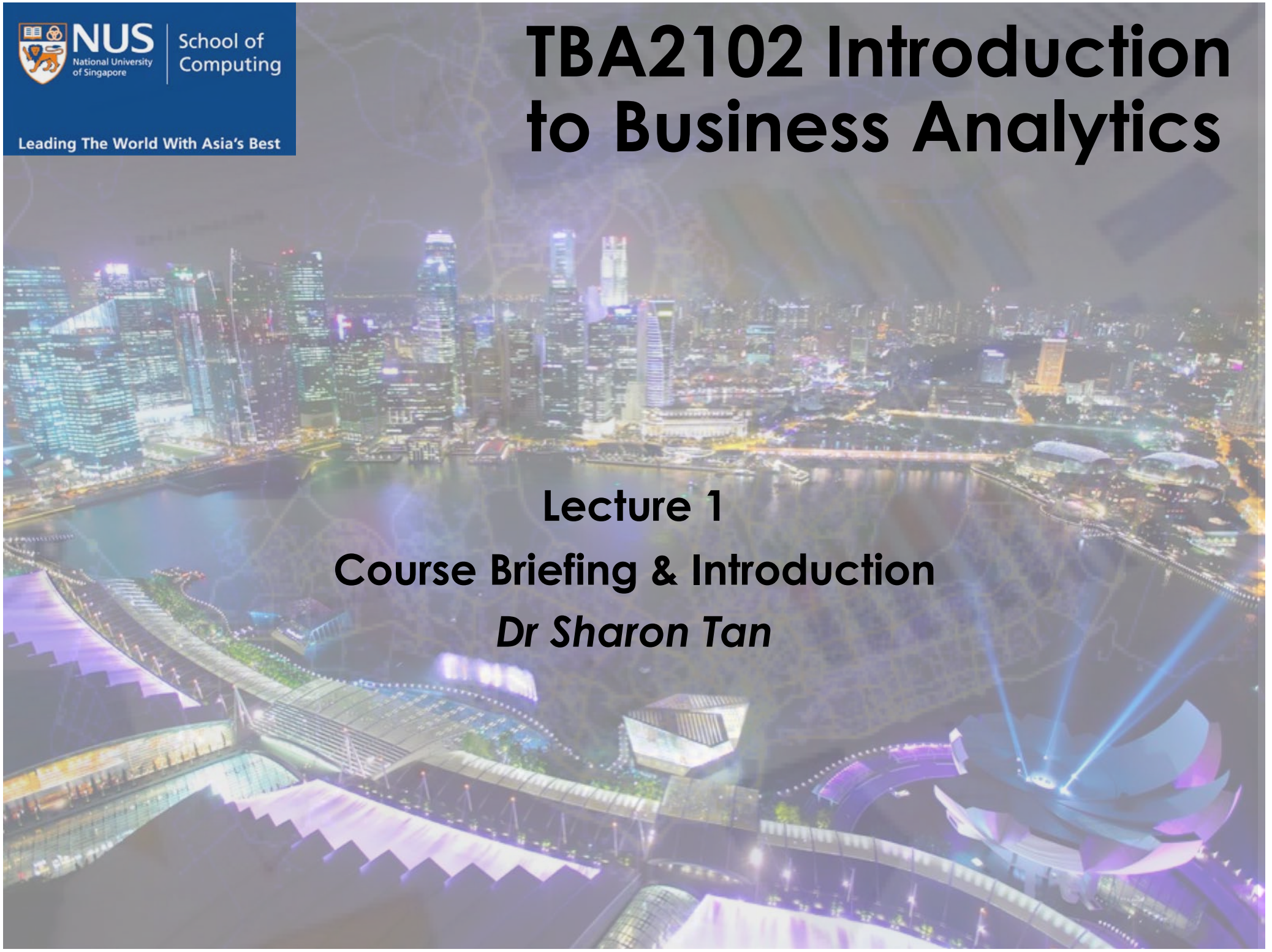
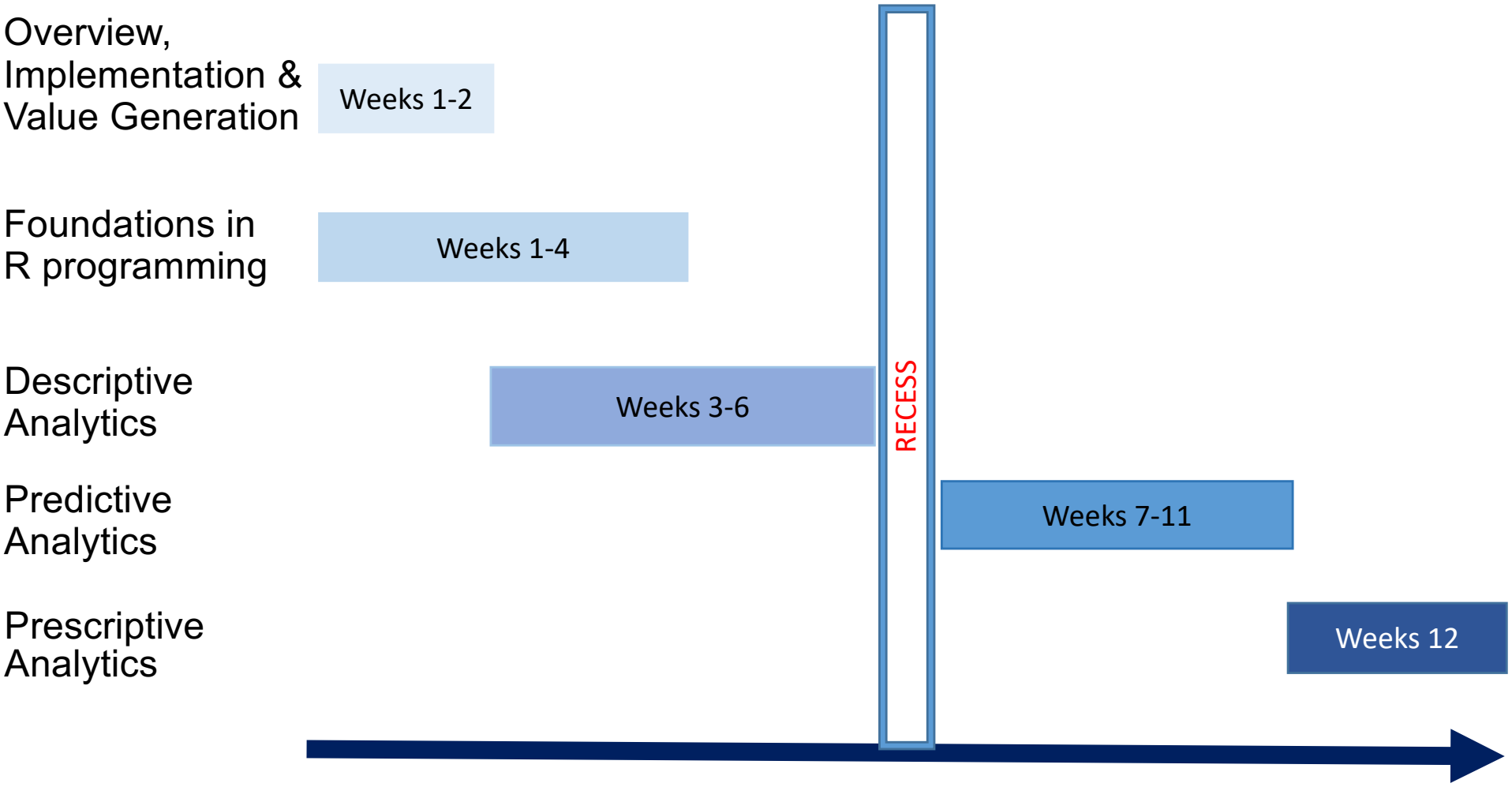

NUS
National University of Singapore
School of Computing
Leading The World With Asia's Best
TBA2102 Introduction to Business Analytics
Lecture 1
Course Briefing & Introduction
Dr Sharon Tan

Course Topics



Course Overview

- fundamental concepts & tools needed to understand the emerging role of business analytics
- how to apply basic business analytics tools using R, and how to effectively use and interpret analytic models and results for making better and more well-informed business decisions
- covers both the organizational and technical aspects of business analytics
- sets the foundation pertinent for business analytics students to understand how various techniques and approaches of business analytics learn fit together as they embark on higher level courses

Learning outcomes

- Understand the conceptual foundations of three aspects of business analytics, namely descriptive, predictive and prescriptive analytics
- Understand the methodological foundations of analysis methods and techniques for business analytics
- Be able to apply analytic techniques and methods on business-related data sets
- Master the basic foundation to using R for data manipulation and analyses
- Understand how and why business analytics can be implemented in organizations, the various approaches and techniques that could be adopted for different organizational objectives and issues.

Course Format

- Blended mode (weeks 1-6)
  - Online learning activities
    - Online videos
    - Datacamp assignments – R practice
    - Online quiz (individual topics)
  - Face-to-face learning activities
    - Workshops: Topic overview, use cases & discussions, hands-on practical
    - Tutorial class: Review/discuss tutorial submissions solutions
  - Assignments/Assessments
    - Tutorial assignments (self-graded, answers discussed in tutorial sessions
    - Final exam & Term assessment (open book)

TBA2102 Week 1-6 Blended Lesson Plan

Week	Online Asynchronous Self-learning activities*	Synchronous Learning Activities#	Assignments/Assessments
Week 1 11-15 Jan	Online video: Overview and Data for Business Analytics Due: 19/1, 6.30pm	Online Lecture 1: Course Briefing & Introduction (12/1)	read JE Chap 1; Online Quiz 1 Due: 19/1, 6.30pm
Week 2 18-22 Jan	Online video: Intro to R Datacamp assignment: "Introduction to R" Due: 2/2, 6.30pm	Online Lecture 2: Implementation & Value Generation Workshop (19/1)	
Week 3 25-29 Jan	Online video: Data Visualizations Online video: Data Tabulations & Frequencies Datacamp assignment: 1) "Transforming Data with dplyr", 2) "Aggregating Data", 3) "Selecting and Transforming Data"	No lecture (26/1) Tutorial 1: Implementation and Value Generation	Tutorial 1 assignment Due 2/2, 8.30pm
Week 4 1-5 Feb	Datacamp assignment: "A quick introduction to Base R graphics" Due: 2/2, 6.30pm	Online Lecture 3: Data exploration and visualization workshop (2/2) Tutorial 2: Basics of R	read JE Chap 3; Online Quiz 2 Due: 2/2, 6.30pm Tutorial 2 assignment Due 9/2, 8.30pm
Week 5 8-12 Feb	Datacamp assignment: "Introduction to RMarkdown" Due: 9/2, 6.30pm Online video: Descriptive Analytics - Statistical Measures Online video on Descriptive Analytics - Probability Distributions and Data Modeling Due: 9/2, 6.30pm	Online Lecture 4: Statistical measures, probability distributions and data modeling workshop (9/2) Tutorial 3: Data Exploration and Visualization with R	read JE Chap 4&5; Online Quiz 3&4 Due 9/2, 6.30pm Tutorial 3 assignment Due 16/2, 8.30pm
Week 6 15-19 Feb	Online video on Sampling and Estimation Online video on Hypotheses Testing Due: 16/2, 6.30pm	Online Lecture 5: Sampling and Estimation & Statistical Inference workshop (16/2) Tutorial 4: Statistical measures, probability distributions and data modeling	read JE chap 6&7; Online Quiz 5&6 Due 16/2, 6.30pm Tutorial 4 assignment Due 2/3, 8.30pm
Recess 22-26 Feb	no classes	no classes	no classes
Week7 1-5 Mar	NA	Online Lecture 6: Refer to Part 2 schedule Tutorial 5: Sampling, Estimation & Statistical Inference	Tutorial 5 assignment Due 9/3, 8.30pm Refer to Part 2 schedule
	* All online self-learning activities are recommended to be completed in the order listed here. You may start anytime but must be completed by the due date so you have the background knowledge required to participate effectively in the workshops.	#Lectures/workshops and tutorials will be conducted online during lecture hours via Zoom; Coaching sessions will be booked on a need-to basis.	Tutorial assignments to be completed on your own by due date to facilitate discussion in tutorial class.

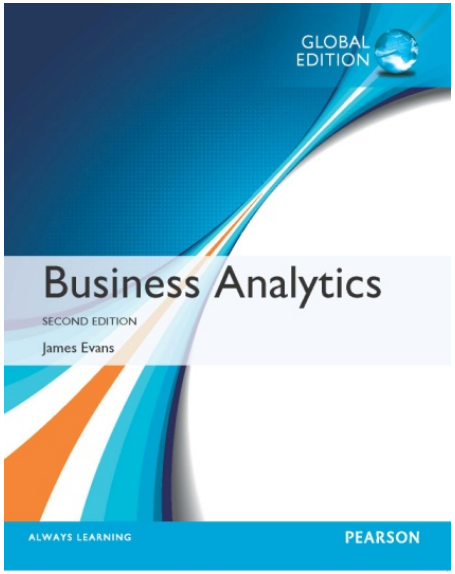
Course Grade

Class Participation	10%
Online Quiz	15%
Datacamp Assignments	15%
Term Assessment (16 March 6:45-7:45pm)	20%
Final Exam (29 April 1:00 – 3:00 pm)	40%
Total	100%

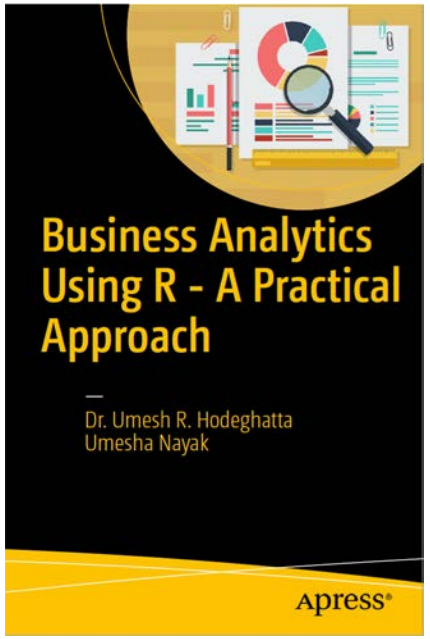
Focus on individual mastery of knowledge contents and tools
Individual assignments must be done individually although group learning is encouraged.

Online quiz and Datacamp assignments must be done by deadline for credits to be earned.

Recommended References



- **[JE] Business Analytics: Methods, Models, and Decisions: International Edition, 2/e or 3/e, by James Evans, Pearson**
- Available at NUS Coop.



- **[UU] Business Analytics Using R - A Practical Approach by Umesh R. Hodeghatta, Umesh Nayak. Berkeley, CA : Apress : Imprint: Apress, 2017.**
- Ebook can be downloaded from NUS library.

Teaching Team

- **Instructor: Sharon TAN (Dr.)**
- PhD (Carnegie Mellon University); MSc in Information Systems (National Univ. of Singapore);
- Healthcare informatics & Analytics
- tansl@comp.nus.edu.sg

- **TA: Oteng NTSWENG**
- PhD candidate (DISA)
- Tutorial sessions
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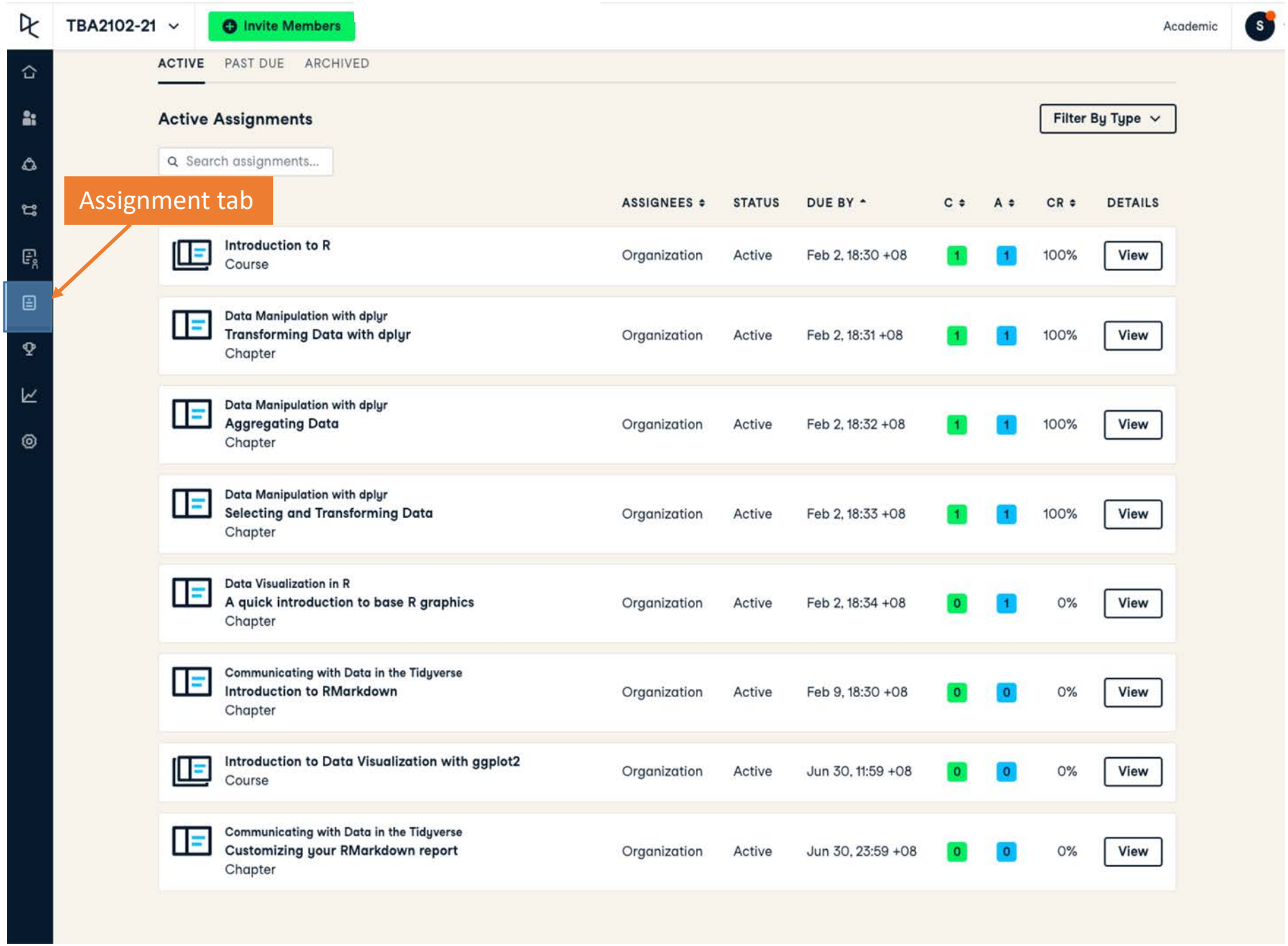
- **TA: Alvaro RIVAS**
- PhD Candidate (DISA)
- Coaching sessions
- alvaro@u.nus.edu

Course Website

- LUMINUS
- Tips:
  - Use Module Overview (Click on respective week) to assess course lecture notes, online videos, tutorials, quiz and other course documents
  - To watch online videos, use playlist which links all the media files in correct order
  - Datacamp assignment must be assessed from datacamp website (cannot be linked from LumiNUS)
  - Post course/tutorial related questions to forum page instead of emailing

Datacamp

- www.datacamp.com
- An email will be sent to you through your NUSNET account (..@u.edu.sg) with a unique link to join the TBA2102-21 group
- If you already have a datacamp account linked to this email address, then you will be added to the group automatically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Self-Introduction Forum

- Name; first, last, preferred; how to pronounce
- Degree programme / year
- What you hope to gain out of this module
- Relevant interests / working experiences (e.g., internship)
- What makes you interesting / unique?
- Photo of yourself