

# IB3A7-15 Problem Structuring for Analytics

**26/27**

**Department**

Warwick Business School

**Level**

Undergraduate Level 3

**Module leader**

Eleanor Reynolds

**Credit value**

15

**Module duration**

10 weeks

**Assessment**

20% coursework, 80% exam

**Study location**

University of Warwick main campus, Coventry

---

## Description

### Introductory description

This module emphasises the practical analytic skills you need to conduct projects in organisations. Alongside some 'technical', numbers-based content, the module explores the 'soft' qualitative tools needed to understand problematic situations. Qualitative tools such as rich picturing and causal mapping – creative, visual techniques that are becoming increasingly important in today's complex business world.

This module will not introduce you to dozens of new numerical techniques. Instead, we explore the practical aspects of getting the tools to work in practice. The focus is approximately 70% / 30% in favour of qualitative rather than quantitative tools.

All topics are tackled from a pragmatic perspective. Students are expected to work collaboratively (this is a practical aspect of tool use) and seminars usually consist of group work. In addition, students are asked to discuss case literature, considering the strengths and weaknesses of projects and developing a critical mindset.

This is an elective module available for WBS and non-WBS students. To find detailed availability and to apply for this module, log in to [my.wbs.ac.uk](http://my.wbs.ac.uk) using your normal IT login details and apply via the my.wbs module application system. Once you've secured a place on my.wbs you should

apply via your home department's usual process, which usually takes place via eVision.

Note that you do not require the module leader's permission to study a WBS module, so please do not contact them to request it.

[Module web page](#)

## Module aims

This module emphasises the practical analytic skills you need to conduct projects in organisations. Alongside some 'technical', numbers-based content, the module explores the 'soft' qualitative tools needed to understand problematic situations. Qualitative tools such as rich picturing and causal mapping – creative, visual techniques that are becoming increasingly important in today's complex business world.

This module will not introduce you to dozens of new numerical techniques. Instead, we explore the practical aspects of getting the tools to work in practice. The focus is approximately 70% / 30% in favour of qualitative rather than quantitative tools.

All topics are tackled from a pragmatic perspective. Students are expected to work collaboratively (this is a practical aspect of tool use) and seminars usually consist of group work. In addition, students are asked to discuss case literature, considering the strengths and weaknesses of projects and developing a critical mindset.

## Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

Students are introduced to the field of Operational Research with emphasis on recent developments in the area of Analytics. A collection of qualitative (Problem Structuring) and quantitative methods are introduced including:

- Systems Thinking;
- Problem Structuring Methods;
- Causal Mapping;
- Soft Systems Methodology (SSM)
- Spreadsheet Modelling;

The module will focus on a selection of methods; this selection may vary from year to year. The critique of an Operational Research/Analytics project is also covered on the module.

## Learning outcomes

By the end of the module, students should be able to:

- Explain the practical issues involved in undertaking OR / analytical projects in the real world.
- Identify the stages of an OR / analytical project.
- Demonstrate how to apply soft and hard OR tools to real-world problems.

- Critically evaluate impact of real-world OR / analytical projects
- Argue for or against / justify a particular approach to an organizational problem
- Think innovatively / creatively about organizational problems using PSMs

## Indicative reading list

[Reading lists can be found in Talis](#)

## Subject specific skills

Think critically, holistically and creatively about organizational situations; specific technical skills such as problem structuring (eg. with rich picturing), quantitative modelling (eg. with spreadsheet modelling), and qualitative modelling (eg. with Soft Systems Methodology (SSM)).

## Transferable skills

Individual working, group working, presentation skills, IT skills, spreadsheet modelling skills, time management, inter-cultural working.

## Study

### Study time

Type	Required
Lectures	10 sessions of 1 hour (7%)
Seminars	9 sessions of 1 hour (6%)
Online learning (independent)	10 sessions of 1 hour (7%)
Other activity	1 hour (1%)
Private study	41 hours (27%)
Assessment	79 hours (53%)
Total	150 hours

### Private study description

Private Study.

### Other activity description

1 hour revision class.

## Costs

No further costs have been identified for this module.

---

## Assessment

You do not need to pass all assessment components to pass the module.

### Assessment group DA

Assessment component	Weighting	Study time	Eligible for self-certification
Groupwork Presentation Video presentation	20%	16 hours	No
<b>Reassessment component</b>			
Individual Assignment			Yes (extension)
<b>Assessment component</b>			
Centrally-timetabled examination (On-campus) <ul style="list-style-type: none"><li>• Graph paper</li><li>• Answerbook Pink (12 page)</li><li>• Students may use a calculator</li></ul>	80%	63 hours	No

Reassessment component is the same

### Feedback on assessment

Feedback via My.WBS.

[Past exam papers for IB3A7](#)

---

## Availability

# Courses

This module is Optional for:

- Year 4 of UECA-L1N3 BSc Economics and Management with Placement Year
- UIBA-N20B BSc in Management
  - Year 3 of N20B Management
  - Year 3 of N20B Management
  - Year 3 of N23K Management with Accounting
  - Year 3 of N234 Management with Digital Business
  - Year 3 of N235 Management with Entrepreneurship
  - Year 3 of N232 Management with Finance
  - Year 3 of N252 Management with Marketing
  - Year 3 of N23L Management with Strategy and Organisation
- Year 3 of UIBA-N400 Undergraduate Accounting and Finance
- UIBA-N404 Undergraduate Accounting and Finance (with Foundation Year and Placement/Undergraduate Partnership Programme)
  - Year 5 of N4N7 Accounting and Finance (Foundation Year and Intercalated)
  - Year 5 of N404 Accounting and Finance (Foundation Year and Placement)
  - Year 5 of N405 Accounting and Finance (Foundation Year and UPP)
  - Year 5 of N403 Accounting and Finance (with Foundation Year)
- Year 4 of UIBA-N403 Undergraduate Accounting and Finance (with Foundation Year)
- UIBA-N401 Undergraduate Accounting and Finance (with Placement Year/Undergraduate Partnership Programme)
  - Year 4 of N401 Accounting and Finance (Placement)
  - Year 4 of N402 Accounting and Finance (Undergraduate Partnership Programme)
- Year 3 of UCSA-I1N1 Undergraduate Computer Science with Business Studies
- Year 4 of UCSA-I1NA Undergraduate Computer Science with Business Studies (with Intercalated Year)
- Year 1 of UIOA-VEU Undergraduate EU Visiting
- Year 3 of UECA-L1N2 Undergraduate Economics and Management
- Year 3 of UGEA-RN21 Undergraduate German and Business Studies
- Year 3 of UIPA-L8N1 Undergraduate Global Sustainable Development and Business
- Year 4 of UIPA-L8N2 Undergraduate Global Sustainable Development and Business Studies (with Intercalated Year)
- UIBA-N20F Undergraduate International Management
  - Year 4 of N20F International Management
  - Year 4 of N20F International Management
  - Year 4 of N20S International Management (with Accounting)
  - Year 4 of N20T International Management (with Chinese)
  - Year 4 of N20P International Management (with Entrepreneurship)
  - Year 4 of N20M International Management (with Finance)
  - Year 4 of N20U International Management (with French)
  - Year 4 of N20L International Management (with Marketing)
  - Year 4 of N20V International Management (with Spanish)
  - Year 4 of N20W International Management (with Strategy and Organisation)

- Year 4 of N20N International Management with Digital Business
- Year 4 of N20E Management (with Foundation Year)
- Year 4 of N234 Management with Digital Business
- UIBA-N220 Undergraduate International Management (with Foundation Year)
  - Year 5 of N220 International Management (with Foundation Year)
  - Year 5 of N221 International Management with Accounting (with Foundation Year)
  - Year 5 of N226 International Management with Chinese (with Foundation Year)
  - Year 5 of N223 International Management with Digital Business (with Foundation Year)
  - Year 5 of N224 International Management with Entrepreneurship (with Foundation Year)
  - Year 5 of N222 International Management with Finance (with Foundation Year)
  - Year 5 of N227 International Management with French (with Foundation Year)
  - Year 5 of N225 International Management with Marketing (with Foundation Year)
  - Year 5 of N228 International Management with Spanish (with Foundation Year)
  - Year 5 of N229 International Management with Strategy and Organisation (with Foundation Year)
- UIBA-N20J Undergraduate Management (with Foundation Year and Placement Year/Undergraduate Partnership Programme)
  - Year 5 of N20J Management (Foundation Year and Placement)
  - Year 5 of N20K Management (Foundation Year and UPP)
  - Year 5 of N23H Management with Digital Business (with Foundation Year and Placement Year)
  - Year 5 of N23J Management with Entrepreneurship (with Foundation Year and Placement Year)
  - Year 5 of N23G Management with Finance (with Foundation Year and Placement Year)
  - Year 5 of N255 Management with Marketing (with Foundation Year and Placement Year)
- UIBA-N20E Undergraduate Management (with Foundation Year)
  - Year 4 of N20E Management (with Foundation Year)
  - Year 4 of N23N Management with Accounting (with Foundation Year and Placement Year)
  - Year 4 of N23M Management with Accounting (with Foundation Year)
  - Year 4 of N23E Management with Digital Business (with Foundation Year)
  - Year 4 of N23F Management with Entrepreneurship (with Foundation Year)
  - Year 4 of N23D Management with Finance (with Foundation Year)
  - Year 4 of N252 Management with Marketing
  - Year 4 of N254 Management with Marketing (with Foundation Year)
  - Year 4 of N23P Management with Strategy and Organisation (with Foundation Year)
- UIBA-N20C Undergraduate Management (with Placement Year/Undergraduate Partnership Programme)
  - Year 4 of N20M International Management (with Finance)
  - Year 4 of N20B Management
  - Year 4 of N20D Management (Undergraduate Partnership Programme)
  - Year 4 of N20C Management (with Placement Year)
  - Year 4 of N20Q Management with Accounting (with Placement Year)

- Year 4 of N236 Management with Digital Business (with Placement Year)
- Year 4 of N235 Management with Entrepreneurship
- Year 4 of N237 Management with Entrepreneurship (with Placement Year)
- Year 4 of N232 Management with Finance
- Year 4 of N233 Management with Finance (with Placement Year)
- Year 4 of N253 Management with Marketing (with Placement Year)
- Year 4 of N23L Management with Strategy and Organisation
- Year 4 of N20R Management with Strategy and Organisation (with Placement Year)
- Year 3 of UMAA-G1NC Undergraduate Mathematics and Business Studies
- Year 4 of UMAA-G1N2 Undergraduate Mathematics and Business Studies (with Intercalated Year)
- UIOA-VOS Undergraduate Overseas Visiting
  - Year 1 of UVOS Undergraduate Overseas Visiting
  - Year 1 of UVOS Undergraduate Overseas Visiting
- Year 3 of UPXA-F3N1 Undergraduate Physics and Business Studies
- Year 4 of UPXA-F3ND Undergraduate Physics and Business Studies (with Intercalated Year)