<table>
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<tr>
<th><strong>UOS CODE</strong></th>
<th><strong>UOS NAME</strong></th>
<th><strong>CREDIT POINTS</strong></th>
<th><strong>STATUS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SBM1108</td>
<td>Business Decision Analysis</td>
<td>6</td>
<td>Advanced</td>
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**SUMMARY**

SBM1108 is an elective unit and aims to equip graduates with the necessary skills and concepts in qualitative and quantitative methods that need to be applied in business decision making. Due to the ever-increasing environmental complexity of business firms, having efficient decision making capabilities is vital for organizational survival and growth. Advanced decision making and problem solving are core important attributes of APIC’s graduates. This unit will introduce students to modelling and decision analysis skills that are required for business problems related to projects. Students engage with a variety of modelling approaches and their associated tools, and will be able to apply these capabilities to different business problems in different industries.

**COURSE CONVENOR**

Dr Rakesh Khanal

**ASSUMED KNOWLEDGE**

Command of the contemporary project management knowledge

**APPROXIMATE WORKLOAD**

<table>
<thead>
<tr>
<th>Weekly Lectures &amp; Tutorials</th>
<th>Team Work</th>
<th>Self Study</th>
<th>Readings</th>
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<tbody>
<tr>
<td>60 hours</td>
<td>&gt;60 hours</td>
<td>&gt;60 hours</td>
<td>&gt;30 hours</td>
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**PRE-REQUISITE**

Recommended all core and SBM1103 and SBM1104

**Learning Outcomes**

- Conceptualize, formulate and represent a business problem or opportunity as a decision model
- Identify potential alternative solutions for a business problem
- Clarify objectives and develop performance matrices
- Use decision-making techniques such as forecasting, optimization, and regression
- Apply quantitative decision making techniques
- Develop business decision models using software tools
- Perform sensitivity analysis
**TARGET COMPETENCIES**

**Project and Program Management**

Target competencies in this unit of study comprise the following:

### Basic tools
- Literacy in terms of the latest concepts, tools and techniques in data analysis
- Ability to collect data, summarize them and prepare descriptive statistics reports
- Know how to implement an assessment scheme effectively and efficiently
- Ability to communicate the results and demonstrate deficiencies in data analysis procedures in an organization

### Modeling and analysis
- Ability to delineate data gaps and obtain consensus from the relevant sections regarding missing data in an organization
- Ability to model a decision making situation, formulate the situation with appropriate tools and techniques
- Ability to analyze the results and prescribe appropriate actions accordingly

### Appraisal and continuous improvement
- Ability to continually evaluate effectiveness and efficiency of data analysis procedures in an organization
- Ability to identify performance shortcomings, prioritize these and take action to address the same
- Ability to communicate results with stakeholders

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**TARGET COMPETENCIES**

**Personal and Socio-cultural**

- Generic: All competencies that are common to all professionals (including cognitive and communication abilities, problem solving and analytical mindset)
- Leadership: Ability to direct, motivate & manage individuals & teams.
- Commitment: Ability to dedicate to tasks & to project outcomes.
- Attitude: Ability to create the right frame of mind that promotes integrity & support for achievement of project goals within a social context.
- Self Direction: Ability to manage within and without guidelines & processes, and to work without supervision.
- Learning: Ability to commit to continuous improvement in knowledge, skills & attitude, & to creating new knowledge developing skills & approaches.
- Cultural Empathy: Ability to respect for & accommodation of individual lifestyle, beliefs & norms.
- Creativity & Innovation: Capacity to generate new ideas/approaches & make them happen.

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**MODES OF DELIVERY**

- Lectures and Tutorials two (2) hours per week
- Team-based learning and project work two (2) hours per week
- Reflective learning, in tandem with team and project learning.

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**ASSESSMENT**

**Theoretical Knowledge**
- Formal written end-of-semester test - 2 hours
- 40% of Total Grade

**Team Project Presentation & Assessment**
- Team project submissions (formatted as per specification for the same) 60% of Total Grade
- Project submissions comprise 3 assignments; there is a deadline for each assignment.
### PRINTED MATERIALS

**PRESCRIBED FOR THE COURSE**

- Learning material (lecture notes, slides, case study and other material provided online).

### SELECTED REFERENCES

#### Journal Articles

**WEB SITES**  
No single Web site presents all the necessary knowledge that students need to learn and apply.

**Software**  
EXCEL  
Students may use special-purpose software as well.

### WEEKLY SCHEDULES

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Activities</th>
</tr>
</thead>
</table>
| 1    | Decision making process, Data types, tools | Model building, assignment problem, make or buy decision, shortest route  
Ch 1 Questions:  
Case study  
Reading |
| 2    | Introduction to Decision modelling | Ch 2 Questions:  
Case study  
Reading |
| 3    | Payoff tables and Decision trees | Ch 6 Questions:  
Various techniques- Regret table etc.  
Case study  
Reading |
| 4    | Sampling and sampling distributions | Assignment 1 LR due  
Ch 7 Questions:  
Case study  
Reading |
| 5    | Probability basics and discrete distributions Decision making with & without probabilities | Ch 4, 5 Questions:  
Case study  
Reading  
Normal, Binomial, Poisson, conditional probability, Bayes’ theorem |
| 6    | Linear programming | Ch 14 Questions:  
Case study  
Reading  
Graphical solution techniques and Sensitivity analysis  
Risk and sensitivity analysis in decision making |
| 7    | Linear programming | Ch 13, 14 Questions  
Case study  
Reading |
| 8    | Distribution & network models | Ch 14 Questions:  
Case study  
Reading  
Transport and production scheduling  
Assignment 2 due |
| 9    | Regression analysis as a causal forecasting model | Ch 10,11 Questions:  
Case study  
Reading |
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Activities</th>
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<tbody>
<tr>
<td></td>
<td>Simple Linear Regression</td>
<td></td>
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<tr>
<td>10</td>
<td>Simulation Models</td>
<td>Ch 15, 16 Questions: Case study Reading Introduction to Simulation Modelling</td>
</tr>
<tr>
<td>11</td>
<td>Moving average model and other smoothing methods of forecasting</td>
<td>Ch 12 Questions Case study Reading Time Series Analysis and Forecasting models</td>
</tr>
<tr>
<td>12</td>
<td>Modelling Appraisals</td>
<td>Critique of application or model for its suitability in a business scenario, e.g., LP for assignment and product-mix; Decision tree for sports scheduling Assignment 3 due</td>
</tr>
<tr>
<td>13</td>
<td>FINAL EXAM</td>
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**Academic Integrity and Honesty**

Following are details and a link to the APIC academic integrity and honesty policy. All students are encouraged to familiarize themselves with the policy, together with other relevant policies, prior to commencing their studies.

APIC believes that academic integrity is based on honesty in all scholarly endeavors. Students must conduct themselves in their academic studies honestly and ethically and are expected to diligently acknowledge the work of others in all academic activities.

A failure to uphold the College’s policies and standards of academic honesty and integrity may result in a finding of academic misconduct which can incur serious penalties including a loss of marks, failure of an assessment, failure of the unit, or expulsion from the College.

Academic misconduct includes cheating, collusion, plagiarism, and other conduct that deliberately or inadvertently claims ownership of an idea or concept without acknowledging the source of the information. This includes any form of activity that negates the academic integrity of the student or another student and his or her work.

Detailed information about relevant terms, penalties, and the processes for investigating allegations of academic misconduct, and for appealing a finding is provided in the college’s policy.