

MGIMO University
School of Government and International Affairs

Syllabus approved
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Strategic Thinking and Forecasting
Undergraduate Course Syllabus

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I. COURSE STRUCTURE AND TEACHING METHODS

1.1. Course position in education program

The elective course “*Strategic Thinking and Forecasting*” aims at providing students with the knowledge of foundations in this field. This course is aligned with the objectives and requirements of the English-language baccalaureate programme 031900 “International relations” offered by the School of Government and International Affairs, as well as the two-year English-language Master's Degree Program in International Affairs.

The course goal is to introduce students to the concept of strategic thinking and policy forecasting techniques and permit them to gain a degree of confidence in their practical use.

Course objectives include:

1. reaching a better understanding by the students of the concept of strategic thinking and its importance in education and professional development;
2. providing students with essential knowledge about the process of thought and impact of cognitive biases on the analytic process;
3. giving students understanding of and some practice in the use of the basic analytic techniques including weighted ranking, event/decision tree, probability/utility matrix;
4. practicing the use of structured techniques including Force Field Analysis, Futures Wheel, What if? Analysis, High Impact-Low Probability Analysis and Analytic Failure Simulation for international problems analysis and forecasting;
5. informing students about the use of game-theoretic techniques in policy forecasting.

1.2. Learning outcomes

The content of the course is designed with a view to contributing to the achievement of the following competencies:

OK – 1, 5, 8, 15, 16

PK - 3, 6, 7, 15, 18, 19

The course is based on the core principle of providing knowledge and skills through a balanced mix of classroom-based learning and self-study in the format of group home projects. Classes include interactive lectures, structured discussion, and seminars in the use of newly learned techniques to achieve designated learning outcomes.

By the end of this course, students should

Know:

- Elements of thought and strategic thinking;
- Main cognitive biases and their impact on the analytic process;
- Advantages and limitations of analytic techniques used in weighted ranking, event/decision trees, and probability/utility assessment;

Be able to:

- Apply strategic thinking to the forecasting of international policy issues;
- Recognize cognitive biases in others' and own thinking;
- Reduce the occurrence of the six main mental errors (mental shortcuts/biases, looking for patterns, reliance on biased assumptions, compulsion to find an explanation, valuing only evidence that supports our beliefs, clinging to untrue beliefs in the face of contradicting evidence) in their academic thinking;
- Consistently and consciously apply the technique of problem restatement to expose and reveal core issues in a problem with a view to identifying alternative solutions to it;
- Routinely use weighted ranking to make better decisions when comparing different options.

Have acquired skills in:

- applying divergent thinking to their academic studies;
- drawing event/decision trees, building weighted ranking and probability/utility matrices;
- applying the structured techniques of Force Field Analysis, Futures Wheel, What if? Analysis, High Impact-Low Probability Analysis and Analytic Failure Simulation for the purpose of performing a structured and consistent critical analysis and forecasting of international policy issues.

2. COURSE CONTENT**2.1 Forms of work**

Types of work	Academic hours
Total	108
<i>Total for lectures and seminars</i>	<i>34</i>
Lectures	16
Seminars	18
<i>Total for Self-study and Controls</i>	<i>74</i>
Self-study	38
Control works	36
Credits	3

2.2 Course outline

Topics	Academic hours				
	Lectures	Seminars	Self-study	Controls	Total
Topic 1. Elements of thought and strategic thinking	2		2		4
Topic 2. Taxonomy of cognitive biases. Six mental errors	2		2		4
Topic 3. Problem restatement. Divergent thinking	2	2	2		6
Topic 4. Matrices/Ranking, Decision/Event Trees	2		2		4
Topic 5. Probability, Utility	2	2	4	10	18

Topic 6. Futures Wheel. Force Field Analysis	2	2	4		8
Topic 7. Presentation and critique of Home Projects 1 & 2		2	6	14	22
Topic 8. Analytic Failure Simulation	2		2		4
Topic 9. What if? Analysis	2	2	2		6
Topic 10. Use of game-theoretic tools for forecasting international policy issues		2	2		4
Topic 11. High Impact-Low Probability Analysis		2	2		4
Topic 12. Presentation and critique of Home Project 3		4	8	12	24
Total	16	18	38	36	108

2.3. Course content

Topic 1. Elements of thought and strategic thinking.

Elements of thought including purposefulness, assumptions, point of view, inferences and focus on consequences are described and discussed. Clarity, accuracy, precision, relevance, depth, breadth, logic, significance and fairness are identified as standards of critical thinking.

The concept of strategic thinking is introduced and discussed. Different lists of attributes used to define it are reviewed and critiqued.

Topic 2. Taxonomy of cognitive biases. Six mental errors.

The human mind cannot cope directly with the complexity of the world. Rather, we construct a simplified mental model of reality and then work with this model. These mental models or mind-sets are inescapable. The principal disadvantage of a mind-set is that it is always, inevitably biased. Mind sets are immensely powerful mechanisms with an extraordinary capability to distort our perception of reality.

Cognitive biases are built into human thinking process and are highly resistant to conscious efforts to overcome or compensate for them. They should be expected to persist despite an analyst's best efforts to the contrary. Cognitive biases that can affect evaluation of evidence; perception of cause and effect; estimation of probabilities; and retrospective evaluation of analytical reports are explained.

Six problematic inclinations that may well have the greatest adverse effects on ability for analysis and problem solving are explained, including: mental shortcuts/biases, looking for patterns, reliance on biased assumptions, compulsion to find an explanation, valuing only evidence that supports our beliefs, clinging to untrue beliefs in the face of contradicting evidence.

Topic 3. Problem restatement. Divergent thinking.

Problem restatement permits to expose and reveal the core issues in a problem. The aim of problem restatement is to broaden our perspective of a problem, thus helping us to identify the central issues and alternative solutions and increasing the chance that the outcome of our analysis will resolve the problem to a greater extent.

This topic also addresses the prevalence of compulsively negative thinking and discusses techniques for making positive thinking a natural habit instead.

The overall purpose of divergent thinking is to generate creative ideas about a topic in order to enrich the inventiveness of solutions. Mental tools for opening the mind are presented, including techniques for questioning assumptions (sensitivity analysis, preventing mirror imaging), seeing different perspectives (thinking backwards, role-playing, learning from surprise), stimulating creative thinking (deferred judgment, avoiding self-imposed constraints). The four postulates of divergent thinking are discussed.

Topic 4. Matrices/Ranking, Decision/Event Trees

Ranking can be instinctive (I like it, I like it not, I like one more/less than the other). There are two weaknesses in the instinctive method. First, we tend to apply different criteria to different characteristics of the different items being ranked. Second, we tend to regard all of our criteria as having equal importance to us, when this is never actually the case. What's more, our priorities often change during a single ranking process. To overcome these weaknesses, students are taught how to conduct pair ranking and apply a weighted ranking matrix.

The decision/event tree dissects a scenario into its sequential events, shows clearly the cause-and-effect linkages, indicating which decisions and events precede and follow others, shows which decisions or events are dependent on others. It enables us visually to compare how one scenario differs from another and reveals alternatives that we might otherwise not perceive and enables us to analyze them – separately, systematically and efficiently.

Topic 5. Probability, Utility

Probability deals with the issue of the materialization of an outcome and is a non-intuitive concept – it cannot be easily derived from everyday experience. The most difficult analytical problems are of random and indeterminate type, where an analytical product heavily depends on subjective judgments. There can be no certainty in the proposed solution, only probability, which is the language of estimating.

Utility deals with the consequences of the materialization of an outcome and is a benefit to a person that arises from a situation – a prize. Students are presented with the explanation of the concepts of Options, Outcomes and Perspectives. Single-perspective vs. Multiple-perspective utility analysis is discussed and subsequently practiced.

The techniques of weighted ranking, pro-cons-fixes, decision/event tree, single-perspective utility matrix are tested during *Home Project 1*.

Topic 6. Futures Wheel. Force Field Analysis

Answers sought through *futures analysis* typically include the combination of the following: What potential events could occur? What future patterns could emerge? What will be the effect of future fundamental drivers?

The overall purpose of futures work in strategic analysis is to:

- Provide a strategic context within which to understand emerging threats;

- Provide a foresight capacity to allow the development of targeted strategies, i.e. the warning of the need for new or different capabilities policies, responses, powers, etc.;
- Narrow the range of uncertainty;
- Ensure that this understanding is provided in an appropriate form to the appropriate policy makers at the right time.

The *Futures Wheel* is a consequence analysis tool mainly designed to consider effects of an event or an action, but is also usable for analyzing a particular trend. It provides rapid visualization of a cause and effect relationships of consequences and their implications at n-tiers. The *Force Field Analysis* often used in conjunction with the FW is a comparative tool that assists examination of the relative weight of drivers that act for (facilitators) or against (inhibitors) change. It can be conducted for the current situation and for a moment in the future. The key to force field analysis is to assess when inhibitors and facilitators are most vulnerable to external pressure, and consequently where and when effort is likely to be best expended.

Students are taken on a guided tour of a real-life forecast. FW/FFA techniques together with pair ranking and pro-cons-fixes subsequently form the core of the assignment for *Home Project 2*.

Topic 7. Presentation and critique of Home Projects 1 & 2

Students get the opportunity to present two of their control works and respond to the critique by the instructor and fellow students. This exchange of knowledge allows students to share their first-hand experiences with biases and demonstrates the different ways of compensating for them. Furthermore students experience the competitive nature of forecasting and the consequent need to defend their scenarios with well-selected arguments.

Topic 8. Analytic Failure Simulation

Failure to question a consensus judgment, or a long-established mental model, has been a consistent feature of most significant analytic failures. *Analytic Failure Simulation* aims to challenge the accuracy of a conclusion regarding futures analysis. It is a specific application of the problem restatement method. The assumption is that your solution has failed, it's an accomplished fact – explain why. Decision makers are typically over-confident in the effectiveness of their decisions, but once it was proven to be otherwise, they suddenly acquire a clear hindsight of why it could happen and come up with multiple explanations for failure.

During the lecture the students will be taken on a guided tour of this technique using a real-life scenario.

Topic 9. What if? Analysis

What if? Analysis uses the reframing technique of assuming that a future event has happened and then thinking backwards in time to reconstruct how it could have happened. This technique can be used in combination with the *Futures Wheel* and *Force Field Analysis* techniques.

During the lecture the students will be taken step-by-step through the method of applying this technique. This technique in combination with the Futures Wheel and Force Field Analysis will be tested in *Home Project 3*.

Topic 10. Use of game-theoretic tools for forecasting international policy issues

Strategic thinking is underpinned by the game theory. Based on their general knowledge of the subject obtained from a course in Semester 4, students will be walked through two real-life scenarios of a simultaneous and a sequential game. These aim to demonstrate the uses for the purposes of forecasting of such game-theoretic concepts as Nash's bargaining solution/axioms, reaching the Nash equilibrium through the shift from Pareto Optimal to Pareto Improvement payoffs in an extensive form game, deterrent/compellent threats/promises.

The students will be able to get a first-hand experience of a cornerstone principle of the game theory, i.e. that your payoff is determined by actions of your opponent rather than by your own, and practice the techniques involved in shaping the opponent's behavior during an extensive form game.

Topic 11. High Impact-Low Probability Analysis

This technique aims to provide decision makers with early warning that a seemingly unlikely event with potentially major resource repercussions (harm) might actually occur. It should be activated whenever the level of event probability starts displaying any kind of upward dynamic from its "low" rating, insignificant as it may appear. This technique uses new or anomalous information as a trigger and then projects forward to what might occur and the consequences if it does occur.

Students will be given a walk-through of the seven steps involved in the High Impact-Low Probability analysis using a real-life scenario.

Topic 12. Presentation and critique of Home Project 3

Students get the opportunity to present their final control work and respond to the critique by the instructor and fellow students. The objective is to leave students with a polished template for conducting futures analysis that will permit them to produce high-quality work meeting real-life professional requirements.

2.4. Grading Guidelines

Passing grade is 60%.

The final grade will be calculated according to the following formula:

$fg = 0,10ca + 0,20 h_1 + 0,30 h_2 + 0,30 h_3 + 0,1g$, where

- 'fg' is final grade
- 'ca' is cumulative grade for class attendance
- 'h₁ – h₃' are grades for Groupwork projects; each of the three assignments will include a detailed grading schedule
- 'g' is the score obtained at the game-theoretic practex.

Control work will include one individual and two group thematic projects that are conducted in the format of homework. These projects will also aim to help student acquire group collaboration skills in selecting and applying some of the techniques presented and practiced during the course to the analysis

of a designated problem. In real-life environments, the use of structured analytic techniques depends on a collaborative effort.

3. METHODOLOGICAL SUPPORT

3.1. Guidelines for completing written assignments

Chapter 4, „Methodological Guidelines for research, writing and presentation of written papers“ (MGIMO University, College of International Management, Moscow, 2012)

3.2. Course reading materials

Compulsory reading:

1. Pherson K.H. Critical thinking for strategic intelligence / Katherine Hibbs Pherson, Randolph H. Pherson. - Los Angeles [etc.] : SAGE : CQ Press, 2013

Further Reading:

1. Paul R., Elder L. Critical Thinking: Tools for Taking Charge of Your Learning and Your Life. - Upper Saddle River. - N.J.: Prentice Hall, 2012
2. Jones, Morgan D. The Thinker's Toolkit: Fourteen Skills for Making Smarter Decisions in Business and in Life. New York, NY: Crown Publishing Group, 1997
3. Heuer. Richards G. Psychology of intelligence analysis, 1997
4. Taleb, Nassim Nicholas. The Black Swan: the impact of the highly improbable. New York, NY: Random House Trade paperbacks, 2010
5. Taleb, Nassim Nicholas. Antifragile: Things that gain from disorder. New York, NY: Random House Trade paperbacks, 2014

Internet resources:

1. Facione, P.A. Critical Thinking: What It is and Why it Counts
<http://insightassessment.com/content/download/1176/7580/file/CT+What%26Why+2015.pdf>
2. Forte J, Horvath C. *Critical Thinking* [e-book]. Hauppauge, NY: Nova Science Publishers, Inc; 2011. Available from: eBook Academic Collection (EBSCOhost)
3. Feldman D. *Critical Thinking: Make Strategic Decisions with Confidence* [e-book]. [Rochester, N.Y.]: Axzo Press; 2009. Available from: eBook Academic Collection (EBSCOhost)