
浙江大學

# BUAS536

# Advanced Management Theory

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# Advanced Management Theory

Instructor Contact Details

Lecturer-in-charge: Jingjing Hu
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Office location: Huajiachi Campus, Zhejiang University, Hangzhou, China
Consultation Time: Book appointment by sending email to: wlwyxy_29@zju.edu.cn

Teaching Times, Modes and Locations

Course Duration: 11 Jan 2026 to 30 Jan 2026
Modes: Face-to-face
Location: Huajiachi Campus, Zhejiang University via face-to-face

Academic Level

Undergraduate

Credit Points:

The course is worth 6 units of credit point.

Credit Hours

The number of credit hours of this course equals to the credits of a standard semester- long course.

Contact Hours

The course contains a total of 53 contact hours, which consists of orientation, lectures, seminars, quiz, discussion, research, case study, small tests, assignments, on-site field trip(s), in-class and after-class activities, revision, self-study, and final exam. Students will receive an official transcript which is issued by Zhejiang University when completing this course.

Enrolment Requirements

Eligibility requires enrollment in an overseas university as an undergraduate or postgraduate student, proficiency in English, and pre-approval from the student's home institution.

Course Description:

This course provides an in-depth exploration of advanced management analytics and operations research, equipping students with the skills and knowledge to make data-driven decisions and optimize complex systems in various business contexts. The curriculum spans a wide range of topics, including economic order quantity (EOQ) models, dynamic programming, Markov chains, and game theory. The course aims to enhance problem-solving abilities, critical thinking, and decision-making skills, making graduates well-prepared for the demands of modern business and management.

Prerequisite:

N/A

Learning Resources

- Wayne Winston, Operations Research: Applications and Algorithms, 4th edition, Brooks/Cole ISE, 2003

Learning Objectives

By the end of this course, you should be able to:

- Develop a solid understanding of advanced management analytics, including the concepts of data analysis, optimization, and decision support systems.
- Acquire proficiency in key operations research techniques, such as Economic Order Quantity (EOQ) models, dynamic programming, Markov chains, and game theory.
- Recognize and appreciate the practical applications of management analytics and operations research in solving complex business problems in marketing, finance, and biology.

Course Delivery:

 Face-to-face Lecture mode includes lectures, seminars, quiz, discussion, research, case study, small tests, assignments, on-site field trip(s), in-class and after-class activities, revision, and final exam.

The following course will be taught in English. There will also be guest speakers and optional field trips available for students who would like to enhance their learning experience. All courses and other sessions will be run during weekdays.

Topics and Course Schedule:

| WK | Topic | Activities |
|---|---|---|
| 1 | Introduction | Lecture; Tutorial |
| 1 | Network Models | Lecture; Tutorial |
| 1 | Decision Making under Uncertainty | Lecture; Tutorial |
| 1 | Game Theory: Two-Person Zero-Sum and Constant-Sum Games: Saddle Points | Lecture; Tutorial |
| 1 | Game Theory: Two-Person Zero-Sum: Randomized Strategies, Domination, and Graphical Solution | Lecture; Tutorial |
| 1 | Game Theory: Linear Programming and Zero-Sum Games | Lecture; Tutorial |
| 1 | Game Theory: Two-Person Nonconstant -Sum Games | Lecture; Tutorial |
| 2 | Game Theory: Introduction to n-Person Game Theory | Lecture; Tutorial |
| 2 | Game Theory: The Core of an n-Person Game | Lecture; Tutorial |
| 2 | Game Theory: The Shapley Value | Lecture; Tutorial |
| 2 | Deterministic EOQ Inventory Models: The Basic EOQ Models | Lecture; Tutorial |
| 2 | In-class Test | Closed book |
| 2 | Markov Chains: What is a Stochastic Process | Lecture; Tutorial |
| 2 | Markov Chains: What is a Markov Chain | Lecture; Tutorial |
| 3 | Markov Chains: n-Step Transition Probabilities | Lecture; Tutorial |
| 3 | Steady-State Probabilities and Mean First Passage Times | Lecture; Tutorial |
| 3 | Absorbing Chain | Lecture; Tutorial |
| 3 | Deterministic Dynamic Programming: Two Puzzles | Lecture; Tutorial |
| 3 | Deterministic Dynamic Programming: A Network Problem | Lecture; Tutorial |
| 3 | Deterministic Dynamic Programming: An Inventory Problem | Lecture; Tutorial |
| 3 | Deterministic Dynamic Programming: Resource-Allocation Problems | Lecture; Tutorial |
| 3 | Deterministic Dynamic Programming: Equipment- | Lecture; Tutorial |

| | | |
|---|---|---|
| | Replacement Problems | |
| 3 | Revision | Tutorial |
| 3 | Final exam | Closed book |

Assessments:

| | |
|---|---|
| Class participation | 15% |
| In-class Test | 15% |
| Assignments | 20% |
| Final exam | 50% |

Grade Descriptors:

| | | |
|---|---|---|
| HD | High Distinction | 85-100 |
| D | Distinction | 75-84 |
| Cr | Credit | 65-74 |
| P | Pass | 50-64 |
| F | Fail | 0-49 |

**High Distinction 85-100**

- Treatment of material evidences an advanced synthesis of ideas Demonstration of initiative, complex understanding, and analysis.
- Work is well-written and stylistically sophisticated, including appropriate referencing, clarity, and some creativity where appropriate.
- All criteria addressed to a high level.

**Distinction 75-84**

- Treatment of material evidences an advanced understanding of ideas Demonstration of initiative, complex understanding and analysis Work is well-written and stylistically strong.
- All criteria addressed strongly.

**Credit 65-74**

- Treatment of material displays a good understanding of ideas
- Work is well-written and stylistically sound, with a minimum of syntactical errors.
- All criteria addressed clearly.

**Pass 50-64**

- Treatment of material indicates a satisfactory understanding of ideas Work is adequately written, with some syntactical errors.
- Most criteria addressed adequately.

**Fail 0-49**

- Treatment of ideas indicates an inadequate understanding of ideas Written style inappropriate to task, major problems with expression.
- Most criteria not clearly or adequately addressed.

Academic Integrity

Students are expected to uphold the university's academic honesty principles which are an integral part of the university's core values and principles. If a student fails to observe the acceptable standards of academic honesty, they could attract penalties and even disqualification from the course in more serious circumstances. Students are responsible for knowing and observing accepted principles of research, writing and any other task which they are required to complete.

Academic dishonesty or cheating includes acts of plagiarism, misrepresentation, fabrication, failure to reference materials used properly and forgery. These may include, but are not limited to: claiming the work of others as your own, deliberately applying false and inaccurate information, copying the work of others in part or whole, allowing others in the course to copy your work in part or whole, failing to appropriately acknowledge the work of other scholars/authors through acceptable referencing standards, purchasing papers or writing papers for other students and submitting the same paper twice for the same subject.

This Academic Integrity policy applies to all students of the Zhejiang University in all programs of study, including non-graduating students. It is to reinforce the University's commitment to maintain integrity and honesty in all academic activities of the University community.

Policy

The foundation of good academic work is honesty. Maintaining academic integrity upholds the standards of the University. The responsibility for maintaining integrity in all the activities of the academic community lies with the students as well as the faculty and the University. Everyone in this community must work together to ensure that the values of truth, trust and justice are upheld.

Academic dishonesty affects the University's reputation and devalues the degrees offered. The University will impose serious penalties on students who are found to have violated this policy. The following penalties may be imposed:

- ✓ Expulsion
- ✓ Suspension
- ✓ Zero mark /fail grade
- ✓ Marking down
- ✓ Re-doing/re-submitting of assignments or reports, and
- ✓ Verbal or written warning.