



浙江大學

MGMT933

Applied Project Economics and Procurement

MGMT933

Applied Project Economics and Procurement

Instructor Contact Details

Lecturer-in-charge: Dong Wang

Email: wlwyxy_29@zju.edu.cn

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: 28 Jun 2026 to 17 Jul 2026

Modes: Face-to-face

Location: Huajiachi Campus, Zhejiang University via face-to-face

Academic Level

Postgraduate

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 examines the economic and procurement dimensions of project delivery across a range of industry sectors. It explores how procurement strategies and contractual arrangements influence project planning, organizational structures, governance, resourcing and risk allocation. The course introduces key procurement approaches, including tendering processes, contract forms, roles and responsibilities, and collaborative and partnering-based delivery models. It also develops core competencies in project financial appraisal and management, covering project costing and financing structures, sources of finance, credit and financial risk, cost of capital, financial accounting principles and capital markets. Students apply fundamental project economics and financial evaluation techniques such as net present value (NPV), internal rate of return (IRR), benefit–cost analysis, equivalent annual unit cost (EUAC), depreciation, replacement analysis, life-cycle costing, sensitivity analysis and risk analysis to support informed project decision-making.

Prerequisite:

N/A

Learning Resources

- Grant, E.L., Ireson, W.G. and Leavenworth, R.S., Principles of Engineering Economy, 8th Edition, John Wiley & Sons, 2018.
- Merrow, E.W., Industrial Megaprojects: Concepts, Strategies, and Practices for Success, 1st Edition, John Wiley & Sons, 2011.

Learning Objectives

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

- Explain the fundamental principles of project finance and apply commonly used analytical frameworks to evaluate project proposals in both public and private sector contexts.
- Apply life-cycle costing concepts, including valuation, depreciation and capitalization methods, to assess the economic performance of projects over their life span.
- Evaluate alternative project funding and financing options and assess their implications for achieving project and organizational objectives.
- Conduct project appraisal using a range of financial and economic analysis techniques, including multi-criteria analysis, to support informed project decision-making in specific business contexts.
- Identify, select and apply appropriate procurement strategies and delivery approaches in response to varying project environments and risk profiles.

- Analyze and manage key procurement processes, including pre-contractual issues and contractual arrangements, and support negotiation outcomes that align with project and stakeholder objectives.

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 to time series data, its components, and basic R programming for time series analysis.	Lecture; Tutorial
1	Course overview. Project-based environments. Foundations of project economics and procurement	Lecture; Tutorial
1	Time value of money. Discounting and compounding. Investment appraisal methods: NPV, IRR, Payback, BCR, ROI and WACC.	Lecture; Tutorial
1	Asset evaluation. Life-cycle costing. Equivalent annual cost, depreciation and replacement analysis.	Lecture; Tutorial
1	Project structuring. Project governance and organizational arrangements. Case studies of large-scale projects.	Lecture; Tutorial
2	Project finance principles. Funding structures for projects. Financial instruments, bonds and sources of capital.	Lecture; Tutorial
2	In-class Test	Closed book
2	Project financial management.	Lecture; Tutorial

	Financial statements and cash flow analysis. Budgeting, EVA and free cash flow.	
2	Procurement systems and delivery models. Contract types and contractual responsibilities. Tendering processes and risk allocation.	Lecture; Tutorial
2	Knowledge test. Group project progress review.	Lecture; Tutorial
3	Risk in project economics and finance. Financial and credit risk. Procurement strategies for risk management and value optimization.	Lecture; Tutorial
3	Decision-making under uncertainty. Multi-criteria analysis. Negotiation principles in project finance and procurement.	Lecture; Tutorial
3	Integration and revision. Application of project economics concepts. Application of procurement strategies.	Lecture; Tutorial
3	Group project presentations. Applied case discussions.	Lecture; Tutorial
3	Revision	Tutorial
	Final exam	Closed book

Assessments:

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

Pass Requirement (Double Pass Rule)

To pass this course, students are required to achieve:

- an overall mark of 50% or above, and
- a pass mark (50% or above) in the Final Examination.

Students who achieve an overall mark of 50% or above but do not achieve a pass in the Final Examination will receive a fail grade for the course.

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