



UNISS

UNIVERSITÀ
DEGLI STUDI
DI SASSARI

DISEA

DEPARTMENT OF ECONOMICS
AND BUSINESS



DEPARTMENT
OF EXCELLENCE
MUR

Ph.D in Economics, Management, and Quantitative Methods (EMQM)

2024 Course Book

Statistics Courses (9 CFR – 45 hours)

- [Introduction to Linear Algebra \(3 CFR - 15 hours\) - SECS-S/06](#)
Prof. R. Melis, romelis@uniss.it
- [Introduction to Regression Analysis \(3 CFR - 15 hours\) - SECS-S/05](#)
Prof. G. Ruiu, gruiu@uniss.it
- [Introduction to Causal Inference \(3 CFR – 15 hours\) - SECS-S/04](#)
Prof. G. Salinari, gsalinari@uniss.it

Management Courses (9 CFR – 45 hours)

- [Qualitative Methods in Management Research \(3 CFR - 15 hours\) – SECS-P/08](#)
TBD
- [Qualitative Methods in Business Research \(2 CFR - 10 hours\) – SECS-P/07](#)
Prof. N. Fadda, nfadda@uniss.it
- [Case Study Methods in Management and Business Research \(1 CFR - 5 hours\) – SECS-P/07](#)
Prof. G. Pischedda, gf.pischedda@uniss.it
- [Literature Review in Business Research \(2 CFR - 10 hours\) – SECS-P/07](#)
Prof. A. Ezza, alberto.ezza@uniss.it
- [Financial Management Research \(1 CFR - 5 hours\) – SECS-P/09](#)
Prof. A. Carosi, acarosi@uniss.it

Economics Courses (9 CFR – 45 hours)

- [Econometrics Theory \(4 CFR – 20 hours\) – SECS-P/01](#)
Prof. G. Atzeni, atzeni@uniss.it
- [Empirical Issues in Economics \(5 CFR – 25 hours\) – SECS-P/06](#)
Prof. M. Pulina, mpulina@uniss.it

Locations

- PhD Students Room: Room no. 42, Via Muroli 23, Ground Floor
- Department of Economics and Business (DiSea): 25 Via Muroli, 1st, 2nd, and 3rd floors
- C1: aka Room “Modulare” Via Muroli 23, Ground Floor

Introduction to Linear Algebra (3 CFR - 15 hours)

Prof. Roberta Melis

romelis@uniss.it

This course introduces the basic linear algebra concepts needed for academic research in economics, management, and quantitative methods. Topics of this course are detailed hereafter.

Matrices

- Matrix definition
- Matrix operations (Addition, Scalar multiplication, Matrix multiplication)
- Transpose
- Special matrices
- Inverse of a matrix
- Rank of a matrix
- Determinants

*Linear systems of equations**Examples (Some applications)**Eigenvalues and eigenvectors, Quadratic forms.***Teaching materials**

All teaching materials can be found at <https://elearning.uniss.it/>

Suggested Readings

Schwartz J. T. (2001), Introduction to Matrices and Vectors, USA, Dover Publications.

Course Valuation

The exam consists of 2 questions, which may involve numerical exercises, to be solved in about 40 minutes, delivering 30/30 points. The exam will be taken in a 2-hour joint session with “Introduction to Regression Analysis” (Prof. G. Ruiu) and “Introduction to Causal Inference” (Prof. G. Salinari) (about 40 minutes/course x 3 courses, about 2 hours exam in total).

Tentative schedule

Date	Time	Room	Topic
Mon, Nov 4	14-17	B6	Matrix definition, Matrix operations (Addition, Scalar multiplication, Matrix multiplication), Special matrices
Tue, Nov 5	9-12	B6	Transpose, Geometry of matrices, Rank of a matrix, Determinants
Wed, Nov 6	9-12	B6	Inverse of a matrix, Linear systems of equations, Rouché-Capelli Theorem, Cramer Theorem
Thus, Nov 7	9-12	B6	Homogeneous system, Parametric systems
Mon, Nov 11	14-17	B1	Eigenvalues and eigenvectors, Quadratic forms, Some applications
Wed, Dec 18	10-13	B4	Exam (take)
Wed, Jan 22	10-13	TBA	Exam (re- take)

Introduction to Regression Analysis (3 CFR - 15 hours)

Prof. Gabriele Ruiu

gruiu@uniss.it

This course will introduce the concept of the Maximum Likelihood Estimator (MLE) and the properties of the MLE estimator. The course will also cover the application of ML methods to count data. Topics of this course are detailed hereafter.

Introduction to Regression Analysis

- Reminder of probability calculus: Marginal, joint, and conditional probability.
- A gentle introduction to the concept of the likelihood statistic model, parametric model, likelihood function, the principle of likelihood, estimates and estimators, maximum likelihood estimation, and properties of MLE. Linear models: OLS and ML estimator.
- Application to count data: Poisson regression model, negative binomial regression model. This part of the course will be more practical. After an introduction to this model, students will be familiarized with the use of R for carrying out estimation.

Teaching materials

All teaching materials can be found at <https://elearning.uniss.it/>

Suggested Readings

Grimmett, G., Stirzaker, D. (2001), Probability and Random Processes, Third Ed. Oxford University Press.

Course Valuation

The exam consists of 2 questions, which may involve numerical exercises, to be solved in about 40 minutes, delivering 30/30 points. The exam will be taken in a 2-hour joint session with “Introduction to Linear Algebra” (Prof. R. Melis) and “Introduction to Causal Inference” (Prof. G. Salinari) (about 40 minutes/course x 3 courses, about 2 hours exam in total).

In addition, one week before the exam date (take), each student will receive a dataset and instructions for carrying out a specific data analysis: students have one week to send the instructor a report showing the analysis results with comments and results interpretation. The final grade for this course is $\frac{2}{3}$ the written exam and $\frac{1}{3}$ the practical part.

Tentative schedule

Date	Time	Room	Topic
Thus, Nov 14	14-16	B5	Probability, Random Variables, Independence
Fr, Nov 15	10-13	B5	An introduction to concept of likelihood
Tue, Nov 19	14-16	B7	Properties of the ML estimator
Wed, Nov 20	12-14	B3	The Poisson regression model
Thus, Nov 21	14-16	B7	The Negative Binomial Regression,
Fr, Nov 22	9-13	B5	R practical session
Wed, Dec 18	10-13	B4	Exam (take)
Wed, Jan 22	10-13	TBA	Exam (re-take)

Introduction to Causal Inference (3 CFR - 15 hours)

Prof. Giambattista Salinari
gsalinari@uniss.it

In this course, we aim to introduce PhD students to some very commonly used causal inference techniques in economic and demographic analyses. The approach followed in this course will be that of the potential outcome framework (also known as the Neyman-Rubin causal model), which represents the most used approach in the field of social sciences. The course will include topics hereafter reported.

Introduction to the Potential Outcome Framework

Randomized experiments

Matching estimator

Difference-in-differences

Teaching materials and related

For practical sessions, R will be the reference language. In any case, some references to Python will also be furnished.

All teaching materials can be found at <https://elearning.uniss.it/>

Suggested Readings

The course is based on the following introductory texts on causal inference:

Dunning, T. 2012. *Natural experiments in the social sciences: a design-based approach*, Cambridge University Press.

Hernan M. A., Robins J. M (2020). *Causal Inference: What if?* CRC Press;

Rosenbaum P. R. (2017). *Observation and Experiment: An Introduction to Causal Inference*. Harvard University Press, Cambridge Massachusetts and London England.

M. Lechner (2010). The Estimation of Causal Effects by Difference-in-Differences Methods. *Foundations and Trends in Econometrics* 4(4):165-224.

J-S. Pishke (2005). *Empirical Methods in Applied Economics*. Lecture Notes.

Austin, Peter C. 2011. "An Introduction to Propensity Score Methods for Reducing the Effects of Confounding in Observational Studies." *Multivariate Behavioral Research* 46 (3): 399–424.

Course Valuation

The exam consists of 2 questions, which may involve numerical exercises, to be solved in about 40 minutes, delivering 30/30 points. The exam will be taken in a 2-hour joint session with "Introduction to Linear Algebra" (Prof. R. Melis) and "Introduction to Regression Analysis" (Prof. G. Ruiu) (about 40 minutes/course x 3 courses, about 2 hours exam in total).

Tentative schedule

Date	Time	Room	Topic
Mon, Nov 25	10-13	C1	Association and causality - Introduction to the potential outcome framework
Tue, Nov 26	10-13	C1	Introduction to randomized experiments
Wed, Nov 27	10-13	C1	Introduction to difference-in-differences analysis
Thu, Nov 28	10-13	C1	Matching
Fri, Nov 29	10-13	C1	Case Studies
Wed, Dec 18	10-13	B4	Exam (take)
Wed, Jan 22	10-13	TBA	Exam (re-take)

Qualitative Methods in Management Research (3 CFR - 15 hours)

TBD

Qualitative Methods in Business Research (2 CFR - 10 hours)

Prof. Nicoletta Fadda
nfadda@uniss.it

Research in business and management often requires the adoption of qualitative methods: the inquiry into an understudied (new) phenomenon, a better understanding of soft elements of managerial mechanisms, and an in-depth analysis of specific relationships are a few particular examples. This course provides basic knowledge of qualitative methods of theoretical elements and practical applications through analyzing research papers. During the course, qualitative methods such as the participatory action research approach and fuzzy set qualitative comparative analysis (fsQCA) will be covered. The main objective is to learn the different qualitative methods for profitable application in research. The course will be taken through traditional lessons, class discussions, and student presentations.

Qualitative methodology

- The basic characteristics of qualitative research
- Data collection procedures
- Data analysis

Participatory action research

Fuzzy set qualitative comparative analysis (fsQCA)

- Qualitative comparative analysis
- Assigning set membership: calibration procedure
- Raw data matrix
- Constructing the Truth table
- The analysis of the necessary conditions
- The interpretation of the complex, parsimonious, and intermediate solutions

Teaching materials

All teaching materials can be found at <https://elearning.uniss.it/>

Suggested readings

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approach*. Sage publications.

Lewin, K. (1946/1997), *Resolving Social Conflicts*, American Psychological Association, Washington, DC.

Savall H., Zardell V., *Action research and intervention research in the French landscape of organizational research. The case of ISEOR*, *International Journal of Organizational Analysis* Vol. 22 No. 4, 2014 pp. 551-572.

Eriksson, P., & Kovalainen, A. (2008). *Qualitative methods in business research*. Sage.

Ragin, C. C. 2008. *Redesigning Social Inquiry: Fuzzy Sets and Beyond*. Chicago, IL: University of Chicago Press.

Ragin, C. C. 2017. *User's Guide to Fuzzy/Set Qualitative Comparative Analysis*. Department of Sociology, University of California, Irvine, CA. www.fsqca.com.

Course Valuation

The exam consists of multiple questions (open or quizzes) to be solved in about 30 minutes, delivering 30/30 points. The exam will be taken in a 1-hour and a half joint session with "Case Study Methods in Management and Business Research" (Prof. G. Pischedda) and "Literature Review in Business Research" (Prof. A. Ezza) (about 30 minutes/course x 3 courses, about 1 hour and a half exam in total). Specifics will be provided during the course.

Tentative schedule

Date	Time	Room	Topic
Mon, Dec 2	9-12	B4	Qualitative methodology: theory and practical application
Mon, Dec 9	9-12	B6	Participatory action research
Wed, Dec 11	9-13	A4	Fuzzy set qualitative comparative analysis (fsQCA)
Fri, Jan 17	10-11:30	B6	Exam (take)
Fri, Feb 7	10-11:30	B6	Exam (re- take)

Case Study Methods in Management and Business Research (1 CFR - 5 hours)

Prof. Gianfranco Pischedda

gf.pischedda@uniss.it

Case study and multiple case study research are essential in a Ph.D. program because they enable an in-depth exploration of complex real-world issues within their specific contexts, fostering critical thinking and offering practical applications of theoretical concepts. By focusing on individual or multiple cases, students can engage in detailed analysis, utilize qualitative and quantitative methods, and contribute to theory building. Multiple case studies, in particular, enhance the generalizability and robustness of findings by allowing for comparisons across different settings, making this approach valuable for producing meaningful and actionable research.

Case study

- Whether and when to use a case study as a research method
- Designing a case study
- Collecting case study evidence
- Analyzing case study evidence

*Single Vs. Multiple case studies***Teaching materials**

All teaching materials can be found at <https://elearning.uniss.it/>

Suggested readings

Eriksson, P., & Kovalainen, A. (2008). *Qualitative methods in business research*. Sage.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Yin, R. K. (2008). *Case study research and applications: Design and methods*. Sage publications. Sixth Edition.

Further readings

Additional specifics will be provided during the course.

Course Valuation

The exam can consist of 1 exercise, theoretical and practical questions (open or multiple choice), an essay, or even an oral presentation, to be solved in about 30 minutes and delivering 30/30 points. The exam will be taken in a 1-hour and a half joint session with “Qualitative Methods in Business Research” (Prof. N. Fadda) and “Literature Review in Business Research” (Prof. A. Ezza) (about 30 minutes/course x 3 courses, about 1 hour and a half exam in total). Specifics will be provided during the course.

Tentative schedule

Date	Time	Room	Topic
Tue, Dec 03	10-13	A3	Research methodology: focus on case study research
Wed, Dec 04	9-11	B4	Multiple case study
Fri, Jan 17	10-11:30	B6	Exam (take)
Fri, Feb 7	10-11:30	B6	Exam (re- take)

Literature Review in Business Research (2 CFR - 10 hours)

Prof. Alberto Ezza
alberto.ezza@uniss.it

This course aims to introduce PhD students to literature reviews and the importance of these tasks for research. In particular, the course will focus on the literature review to help develop a research project (e.g., PhD dissertation) or a standalone research product specifically focusing on adopting this methodology in the business and managerial field. The course will be conducted using lectures and guided exercises in the classroom under the instructor's supervision and independently by students, using specific software for conducting literature reviews.

The main topics covered in the course are:

Definition of literature review
Scoping, integrative, and systematic literature reviews.
Performing a literature review for a PhD dissertation
Bibliometric literature review
Data collection and data management
Software to manage literature review

Teaching materials

All teaching materials can be found at <https://elearning.uniss.it/>

Suggested readings

- Torraco, Richard J. «Writing Integrative Literature Reviews: Using the Past and Present to Explore the Future.» *Human Resource Development Review* 15, fasc. 4 (dicembre 2016): 404–28. <https://doi.org/10.1177/1534484316671606>.
- Whittemore, Robin, and Kathleen Knafel. «The Integrative Review: Updated Methodology.» *Journal of Advanced Nursing* 52, fasc. 5 (dicembre 2005): 546–53. <https://doi.org/10.1111/j.1365-2648.2005.03621.x>.
- Page, Matthew J., Joanne E. McKenzie, Patrick M. Bossuyt, Isabelle Boutron, Tammy C. Hoffmann, Cynthia D. Mulrow, Larissa Shamseer, et al. «The PRISMA 2020 Statement: An Updated Guideline for Reporting Systematic Reviews». *BMJ* 372 (29 marzo 2021): n71. <https://doi.org/10.1136/bmj.n71>.
- Page, Matthew J, David Moher, Patrick M Bossuyt, Isabelle Boutron, Tammy C Hoffmann, Cynthia D Mulrow, Larissa Shamseer, et al. «PRISMA 2020 Explanation and Elaboration: Updated Guidance and Exemplars for Reporting Systematic Reviews». *BMJ*, 29 marzo 2021, n160. <https://doi.org/10.1136/bmj.n160>.
- Ridley, Diana. *The Literature Review: A Step-by-Step Guide for Students*. Second Edition. Sage Study Skills. Los Angeles London New Delhi: SAGE, 2012.

Further readings

- Harris, Dave. *Literature Review and Research Design: A Guide to Effective Research Practice*. London, New York: Routledge, 2020.
- Renck Jalongo, Mary, e Olivia N. Saracho. *Writing for Publication: Transitions and Tools that Support Scholars' Success*. 1st ed. 2016. Springer Texts in Education. Cham: Springer International Publishing : Imprint: Springer, 2016. <https://doi.org/10.1007/978-3-319-31650-5> (Chapter 5)

Further readings will be handled during the course.

Course Valuation

The exam can consist of 1 exercise, theoretical and practical questions (open or multiple choice), an essay, or even an oral presentation, to be solved in about 30 minutes and delivering 30/30 points. The exam will be taken in a 1-hour and a half joint session with “Qualitative Methods in Business Research” (Prof. N. Fadda) and “Case Study Methods in Management and Business Research” (Prof. G. Pischedda) (about 30

minutes/course x 3 courses, about 1 hour and a half exam in total). Specifics will be provided during the course.

Tentative schedule

Date	Time	Room	Topic
Thu, Dec 5	10-12	A4	Literature review: definition and main typology
Mon, Dec 9	15-18	B6	Literature review: definition and main typology - Research strategy
Tue, Dec 10	10-13	A4	Data collection and data management
Tue, Dec 17	9-11	B5	Literature review for PhD scholars- Applications
Fri, Jan 17	10-11:30	B6	Exam (take)
Fri, Feb 07	10-11:30	B6	Exam (re- take)

Financial Management Research (1 CFR - 5 hours)

Prof. Andrea Carosi
acarosi@uniss.it

This course deals with some of the most common research methods and practices in financial management research, e.g., event-study methodology, staggered diff-in-diff, accruals estimation, ESG scores estimation, etc. It will be based on research papers, analysis, and presentations.

Financial management research

- Event-study methodology
- Accruals estimation and proxy opacity in financial reports
- ESG scores estimation (time permitting)
- Staggered diff-in-diff estimation, an application to corporate scandals (time permitting)

Teaching materials

All teaching materials can be found at <https://elearning.uniss.it/>

Suggested readings

- Chaney, P.K., Faccio, M., Parsley, D., 2011. [The quality of accounting information in politically connected firms](#). *Journal of Accounting and Economics* 51, 58–76.
- Cornett, M.M., Erhemjants, O., Tehranian, H., 2016. [Greed or good deeds: An examination of the relation between corporate social responsibility and the financial performance of U.S. commercial banks around the financial crisis](#). *Journal of Banking & Finance* 70, 137–159.
- Hutton, A.P., Marcus, A.J., Tehranian, H., 2009. [Opaque financial reports, R2, and crash risk](#). *Journal of Financial Economics* 94, 67–86.
- Kothari, S.P., Warner, J.B., 2007. [Chapter 1 - Econometrics of Event Studies](#), in Eckbo, B.E. (Ed.), *Handbook of Empirical Corporate Finance, Handbooks in Finance*. Elsevier, San Diego, pp. 3–36.

Course Valuation

The exam can consist of 1 exercise, theoretical question, essay, or oral presentation, delivering 30/30 points. The exam will be taken in a dedicated session (1 hour). Specifics will be provided during the course.

Tentative schedule

Date	Time	Room	Topic
Thu, Dec 12	10-13	B2	Event-study methodology
Fri, Dec 13	11-12	B2	Accruals and ESG scores estimation (time permitting)
Thu, Dec 19	12-13	B2	Exam (take)
Wed, Jan 15	12-13	B2	Exam (re- take)

Econometrics Theory (4 CFR – 20 hours)

Prof. G. Atzeni
atzeni@uniss.it

This course provides the essential theoretical tools for understanding econometric analysis. The course is designed to achieve the following learning objectives:

- apply probability theory
- test statistical hypotheses
- perform estimation and inference in linear regression model
- use instrumental variables to treat endogeneity

Course contents include,

Review on matrix algebra and probability theory: random variables, random samples, and distributions.

Large sample distribution theory, linear regressions, OLS;

Finite sample inference;

Large sample inference;

Heteroskedasticity, Generalized Least Square method;

Endogeneity;

Instrumental variables

Maximum Likelihood

Logit and probit

Suggested readings**Core textbook:**

Greene, W. H. (2003). *Econometric analysis*. Pearson Education India.

Supplementary textbooks:

Angrist and Pischke (2009), *Mostly Harmless Econometrics*, Princeton University Press.

Davidson and MacKinnon (2004), *Econometric Theory & Methods*, Oxford University Press. [Download here](#).

Casella and Berger (2002), *Statistical Inference*, Duxbury. [Download here](#).

Course Valuation

The valuation of this course is based upon solving a problem set, to be submitted via atzeni@uniss.it by 7th March, delivering 30/30 points. Specifics will be provided during the course.

Marking scheme (standard based on the Ph.D rules)

A	30 / 30, merit
B	27-29
C	24-26
D	21-23
E	18-20
F	<18

Certificate of attendance

A certificate of attendance will be issued to students attending specific modules full-time.

Tentative Schedule

	Date	Time	Room	Topic
	Fri, Jan 10	11-13	B5	Review on matrix algebra and probability theory
	Mon, Jan 13	10-13	B5	Large sample distribution theory, linear regressions, OLS
Week 1	Tue, Jan 14	10-13	B5	Finite sample inference, large sample inference
	Wed, Jan 15	10-13	B5	Heteroskedasticity
	Fri, Jan 16	10-13	B5	Generalized Least Square method
	Mon, Jan 19	10-13	B5	Endogeneity, instrumental variables
Week 2	Tue, Jan 20	10-13	B5	Maximum Likelihood, logit and probit
	Fri, Mar 7			Exam: solving problem set provided

Empirical Issues in Economics (5 CFR – 25 hours)

Prof. M. Pulina
mpulina@uniss.it

The course provides empirical tools for understanding more advanced econometric analysis and interpreting economic theories. The course is designed to achieve the following learning objectives:

- basic econometric theory on the main course topics
- perform estimation
- inference and interpretation
- essential tools in integrative methods: Principal Component Analysis and Probabilistic Modelling

Course topics include,

ARIMA - SARIMAX

VAR - VECM

Panel data

Probabilistic Panel Data

Integrative Methods (Principal Component Analysis and Probabilistic Modelling)

Teaching materials

All teaching materials can be found at <https://elearning.uniss.it/> and Microsoft Teams (14gqzln)

Suggested readings

Hill R.C., Griffiths W.E., Lim G.C. (2018). Principles of Econometrics. Wiley

Pindyck and Rubinfeld. (2000). Econometric Models and Economic Forecast, 4th. Ed. McGraw Hill, NY.

Maddala and Lahiri. (2009). Introduction to econometrics. Macmillan, NY.

Greene, W. H. (2003). Econometric analysis. Pearson Education India.

Course evaluation

The evaluation of this course is based on a technical essay, delivering 30/30 points (more details will be provided during the course).

Essay/report deadlines are as follows,

Take exam: March 11, 2024, h. 9-11 (max 30/30 points)

Retake exam: March 28, 2024, h. 9-11 (max 30/30 points)

Further indications are hereafter reported,

- Novel essay (max 30/30 points - max. 5 pages, 1.5 space, Times New Roman, size 12) on a topic of interest, aligned with the topics addressed during the course and own Ph.D. research.

Essay framework and marking scheme:

- **Introduction** (aims of their paper and a brief account of the specific thread of the literature) = 5/30 points; **Methodological framework** (clearly explain the method employed, data/sources, and findings) = 20/30 points; **Conclusions** (highlight the primary outcomes possibly aligned with the literature, strengths and weakness/ policy implications) = 5/30 points.
- **Compulsory extra material:** STATA syntax_file with replications of the findings and comments explaining the commands employed to run the empirical analysis.

Marking scheme (standard based on the Ph.D rules)

A	30 / 30, merit
B	27-29
C	24-26
D	21-23
E	18-20
F	<18

Certificate of attendance

A certificate of attendance will be issued to students attending specific modules full-time.

Tentative schedule

Date	Time	Room	Topic
Tue, Jan 21	9-11	B3	Introduction to econometrics analysis and software
Tue, Jan 21	11-13	B3	Methods and applications in time series ARMA
Thu, Jan 23	9-11	B3	Methods and applications in SARIMAX
Thu, Jan 23	11-13	B3	Methods and applications in VAR
Fri, Jan 24	9-11	B3	Methods and application UNIT ROOTS
Fri, Jan 24	11-13	B3	Methods and applications in COINTEGRATION
Mon, Jan 27	9-11	B3	Methods and applications in VECM
Mon, Jan 27	11-13	B3	Methods and applications in PANEL DATA
Tue, Jan 28	9-11	B3	Methods and applications in PANEL VECM
Tue, Jan 28	11-13	B3	Methods and applications in PROBABILISTIC MODELLING
Tue, Jan 30	9-11	B3	Methods and applications in PROBABILISTIC PANEL
Tue, Jan 30	11-13	B3	Methods and applications in PRINCIPAL COMPONENTS ANALYSIS
Mon, Feb 3	9-10	B3	Methods and applications in MIXED METHODS
Mon, Mar 11	9-11	B3	Exam (take)
Thu, Mar 28	9-11	B3	Exam (re- take)