Updated: October 21, 2014

UPDATED WITH INFORMATION ABOUT THE B206 and E212 EQUIVALENCY EXAMS IN NOVEMBER 2014

Equivalency Exams for Economics and Quantitative Reasoning
During Fall 2014 Orientation - Friday, August 29, 2014 – ASEAN

9:30-10:30 AM: Economics (E201) Equivalency Exam in ASEAN

* No calculator is allowed for the Economics (E201) Equivalency Exam.
* No notes, books, or computer are allowed.

10:30 AM-12:30 PM: Quantitative Reasoning (E210m and B205) Equivalency Exams in ASEAN

* No calculator is allowed for the Quantitative Reasoning E210m Equivalency Exam.
* No notes, books, or computer are allowed.
* A non-scientific calculator is allowed for the B205 Equivalency Exam.

Note: The Economics (E201) Equivalency Exam and the Quantitative Reasoning (E210m and B205) Equivalency Exams are offered, without exception, only during the Orientation periods (August 29, 2014) and (January 8, 2015). No alternate dates are available.

Students are not required to take the Equivalency Exams, although it is strongly recommended. If you have a foundation in Economics, Statistics and/or Quantitative Methods, you may want to try one or all of these Equivalency Exams in an attempt to either satisfy the Quantitative Reasoning (QR) Breadth Requirement, and/or by being able to take a higher level Economics course in order to satisfy the Economics divisional (EIB) Breadth Requirement.

For MALD students, the specific course requirements/options for each of the Divisions (DHP, ILO, EIB), as well as Quantitative Reasoning may be reviewed at: http://fletcher.tufts.edu/Academic/Courses/Breadth-Requirements.

Please note LLM and MA students may take the Equivalency Exams but passing any will neither satisfy any Breadth Requirement nor provide any course waiver.

PhD students are required to pass either the B205 or B206 Equivalency Exam and take E213: Econometrics as part of the Methodology Requirements.

About the Economics Equivalency Exam:

Each MALD student is required to take EIB E201: Introduction to Economic Theory (offered in fall and spring semesters), which fulfills the Economics (EIB) Divisional Breadth Requirement. If you elect to take the Economics Equivalency Exam for E201: Introduction to Economic Theory, please note the following:

- MALD students who pass the E201 Equivalency Exam will be exempt from taking the course, E201, but will be required to fulfill the Economics (EIB) Divisional Breadth Requirement by taking one course from the selection of higher level Economics (EIB) courses listed below (please refer to the EIB Breadth Requirement detailed below):

  Each MALD student is required to successfully complete the course, EIB E201: Introduction to Economic Theory, or EIB E211: Microeconomics, or any other higher-level Economics course listed below to fulfill the EIB Breadth Requirement. Students who pass the E201 Equivalency Exam may choose to enroll in EIB E201 but are encouraged to enroll in EIB E211, or they may choose to fulfill the EIB Breadth Requirement by taking another Economics one-credit course from the list below. In order to take any of the listed Economics courses to satisfy the Breadth Requirement (with the exception of EIB E211), one must pass the E201 Equivalency Exam. Students who receive equivalency for one of the listed courses still must take a full credit Economics course in order to satisfy the EIB Breadth Requirement. Please carefully review the course descriptions for information on other prerequisites for the upper level Economics courses.

  - EIB E211: Microeconomics
  - EIB E212: Macroeconomics
  - EIB E213: Econometrics
  - EIB E214: International Economic Policy Analysis
  - EIB E220: International Trade and Investment
  - EIB E221: Advanced International Trade and Investment
  - EIB E230: International Finance
  - EIB E240: Development Economics: Macroeconomic Perspectives
  - EIB E241: Development Economics: Policy Analysis
  - EIB E246: Environmental Economics
  - EIB E247: Econometric Impact Evaluation for Development
  - EIB E262: The Economics of Global Health and Development

Important to Note: * EIB E213: Econometrics may not be used to satisfy both the Quantitative Reasoning (QR) Breadth Requirement and the Economics and International Business Breadth Requirement. Students must determine which of these Breadth Requirements it will satisfy.

- MALD students who do NOT PASS the E201 Equivalency Exam must register to take the course, E201: Introduction to Economic Theory (offered in both fall and spring semesters), which will fulfill the Economics (EIB) divisional Breadth Requirement.
About the Quantitative Reasoning Equivalency Exams:

There are two separate Quantitative Reasoning Equivalency Exams, one for E210m: Quantitative Methods, and another for B205: Data Analysis and Statistical Methods. **(MIB students—please see note below about the B206 Equivalency Exam).**

- Students who do not pass the Quantitative Reasoning Equivalency Exam for either E210m or B205 can satisfy the Quantitative Reasoning Breadth Requirement by taking one of the following courses listed below:
  - E210m: Quantitative Methods
  - E213: Econometrics*
  - B205: Data Analysis and Statistical Methods
  - B206: Data Analysis and Statistical Methods for Business
  - B262: Marketing Research and Analysis
  - P203: Analytic Frameworks for International Public Policy Decisions
  * **NOTE:** E213 may **NOT** be used to satisfy both the Quantitative Reasoning (QR) Breadth Requirement and the Economics (EIB) divisional Breadth Requirement. Students must determine which of these Breadth Requirements it will satisfy.

How to Prepare for the Equivalency Exams:

Prior Equivalency Exams are not available for review. To help you prepare for the Equivalency Exams, the faculty members responsible for the exams have provided the information below about the content and format of their respective exams. As soon as the Registrar’s Office has the results for each individual student’s exam, you will be notified by email.

**E201 Equivalency Exam – Information from Professor Carsten Kowalczyk:**

**Q: What is the purpose of the Equivalency Exam?**
A: The exam (10 multiple-choice questions) serves two purposes: It is a diagnostic tool to provide information to you about which level of Economics courses you might consider entering. Also, when passed, the exam offers equivalency for E201, which is required if you offer one of the following fields of study in Economics: International Trade and Commercial Policies, or International Monetary Theory and Policy, or Development Economics.

**Q: Who should take the Equivalency Exam?**
A: Anyone who plans to satisfy the Economics breadth requirement by taking one of the listed Economics courses that can be taken to satisfy this requirement (for MALD students).

**Q: What does the Equivalency Exam cover?**
A: Microeconomic and Macroeconomics at a level corresponding to Alan Stockman: Introduction to Economics; Gregory Mankiw: Principles of Economics; or Fischer, Dornbusch, and Schmalensee: Economics. Questions are usually, but not necessarily, within the areas of supply and demand, consumer theory, technology, cost theory, monopoly, labor economics, national income accounting, savings and investment theory, economic growth, and fiscal and monetary policies.
E210m Equivalency Exam – Information from Professor Michael Klein:
Topics covered in the E210m: Quantitative Methods Equivalency Exam include: logarithmic and exponential functions, differential calculus (both univariate and multivariate), finding the extreme points of functions, and constrained optimization. For more details on the material covered, consult the textbook for the Quantitative Methods Module, EIB E210m, Mathematical Methods for Economics, 2nd edition, by Michael Klein (Addison Wesley, 2002), with special attention to chapters 3, 7, 8, 9, 10 and 11.

B205 Equivalency Exam – Information from Professor Robert Nakosteen:
Core material covered in B205: Data Analysis and Statistical Methods, as well as for B206: Data Analysis and Statistical Methods for Business (MIB students, please see below for more information about the B206 Equivalency Exam).

The outline below details material that will be covered on the B205 Equivalency Exam. Also, please refer to the B205/B206 – Useful Expressions Information Sheet.
The chapter numbers refer to the following text:
Basic statistics and concepts: data collection and the nature of numerical information; descriptive measures of central tendency, dispersion, and skew. Chapters 1 and 3.
The concepts and rules of probability: Chapter 4.
Discrete probability distributions: The expected value operator. Chapter 5 (section 5.1 only). The normal distribution and sampling distributions: Chapter 6 (skip sections 6.3, 6.4, 6.5, and 6.6) and chapter 7.
Statistical inference I: Confidence intervals. Chapter 8 (skip sections 8.3 and 8.5).
Statistical inference II: Hypothesis testing. Chapter 9 (skip section 9.5).

[MIB students—please continue to next page to review important notes about Equivalency Exams offered outside of Orientation weeks for MIB core courses.]
IMPORTANT TO NOTE FOR MIB STUDENTS:
Three Equivalency Exams are offered outside of Orientation weeks for MIB core courses. Students from other degree programs are also welcome to take these exams when applicable.

* Please Refer to the B205/B206 Useful Expressions Information Sheet, as needed.

For MIB students wishing to take these exams, they must be taken and passed in the first year of study. If they are not taken in the first year, the associated course must be taken in the first year instead. All MIB students must have taken the B206: Data Analysis and Statistical Methods for Business course or passed the B206: Data Analysis and Statistical Methods for Business Equivalency Exam by the end of their first year of study.

THE THREE EQUIVALENCY EXAMS OFFERED OUTSIDE OF ORIENTATION WEEK:

E217m: Managerial Economics Equivalency Exam: Wednesday, August 20, 2014 in Mugar 200
* MIB students with advanced Economics knowledge may choose to take the E217m: Managerial Economics Equivalency Exam. If you pass the E217m Equivalency Exam, you will be exempt from taking the core course, E217m: Managerial Economics (.5 credit), but you must take an upper level Economics course.

E217m is a concise introduction to issues of organizational management and strategy presented from the perspective of economics. As a result, the course first briefly reviews of relevant concepts from microeconomics and then builds on this foundation to consider pricing and product design strategies, strategic interaction with both actual and potential rivals, and issues of organizational design such as performance evaluation and incentive structures. Much, but not all, of this material is covered in: Brinkley, Smith, and Zimmerman, Managerial Economics and Organizational Architecture, 5th Edition, (BSZ). New York: McGraw-Hill/Irwin (2009). Those seeking a more quantitative presentation may prefer: Besanko, Dranove, Shanley, and Schaefer, The Economics of Strategy, 4th edition.

Topics covered in the E217m Equivalency Exam include: scale and scope economies, profit maximization, price elasticity, price discrimination, product differentiation, game theory/Nash equilibrium, Bertrand and Cournot competition, entry deterrence, complementary relationships, decision rights, incentive compensation contracts, performance measurement, make-or-buy, networks, and standards competition.

B206: DATA ANALYSIS AND STATISTICS FOR BUSINESS EQUIVALENCY EXAM
THURSDAY, NOVEMBER 13, 2014, 7:30 AM-9:30 AM, CABOT 206
* No notes, books, or computer are allowed.
* A non-scientific calculator is allowed for the B206 Equivalency Exam.

* MIB students who pass the B206: Data Analysis and Statistics for Business Equivalency Exam will be exempt from having to enroll in the course, B206: Data Analysis and Statistics for Business, and may substitute it with an elective of their choice. This is the only opportunity for MIBs to take this Equivalency Exam. This Equivalency Exam must be passed, or the B206 class must be taken by the end of the first year.

Note that the core material covered in the B206 Equivalency Exam is outlined above by Professor Nakosteen in the B205 Equivalency Exam section. There is one addition in order for MIB students to prepare for the B206 Equivalency Exam: Binomial Probability Distribution. Chapter 5 (sections 5.1 and 5.3). Also, please refer to the B205/B206 – Useful Expressions Information Sheet.

E212: MACROECONOMICS EQUIVALENCY EXAM
THURSDAY, NOVEMBER 20, 2014, 7:30 AM-9:30 AM IN CABOT 206
* Use of calculators – either hand-held or on the computer – are NOT allowed.
* If you have a laptop, please bring it to the exam; once you have completed the exam directly on your laptop, you will need to email it to Professor Larry Krohn at: Lawrence.krohn@tufts.edu. If you do not have a laptop, please complete the exam using the blue books provided to you.

* MIB students who pass the E212: Macroeconomics Equivalency Exam are exempt from taking the core course, E212: Macroeconomics, but must take an upper level Economics course. To pass the E212 Equivalency Exam, students will need to comprehend macroeconomic theory (including national income accounting) and its applications at the intermediate level. Course mathematical requirements are limited to basic algebra, and the exam will reflect this. The text for 2014 will be Oliver Blanchard and David Johnson, Macroeconomics, Sixth Edition, supplemented by some chapters from Frederic Mishkin’s The Economics of Money, Banking and Financial Markets, 10th edition, 2012 on monetary institutions and policy. The E212 Equivalency Exam will cover the material in Chapters 2 – 7, 9, 14, 18 – 19 and 23 – 24 of Blanchard and Johnson, 6th edition. (Not surprisingly, the same content is covered in other intermediate macro textbooks if one of them is more readily available.) Some editions of the full Blanchard and Mishkin textbooks are available on reserve at Ginn Library. MIB students who pass the E212 Equivalency Exam are exempt from taking the core course, E212: Macroeconomics, but must take a higher level Economics course.