



# VALIDATION and ADVANCED PLACEMENT EXAMINATIONS (APE)

Credit by Examination

## FOR INCOMING FRESHMEN



Academic Year 2019 – 2020  
University of the Philippines  
Diliman

### **APPLICATION PERIOD**

**13 - 28 May 2019 VALIDATION**  
**13 May – 04 June 2019 - ADVANCED  
PLACEMENT EXAMINATION (APE)**

Administrative Office  
Institute of Mathematics  
College of Science Complex  
UP Campus, Diliman, Quezon City

### **EXAMINATION DATE AND TIME**

#### **VALIDATION (Math 20)**

For Incoming Freshmen who have not taken Pre-calculus from the STEM or equivalent strand of K-12

**29 May 2019 (WEDNESDAY)**

1:00 P.M. – 3:00 P.M.

#### **ADVANCED PLACEMENT EXAMINATIONS (APE) (Math 21)**

For Incoming Freshmen who have taken Pre-calculus from the STEM or equivalent strand of K-12 or those who passed the Math 20 Validation Examination

**05 JUNE 2019 (WEDNESDAY)**

1:00 P.M. – 3:00 P.M.

Please be at the venue by:  
12:30 P.M.

#### **EXAMINATION VENUE**

Mathematics Building  
C.P. Garcia Ave., UP Campus  
Diliman, Quezon City

For more information, contact:

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The APE is an official activity of the:

#### **INSTITUTE OF MATHEMATICS**

College of Science  
University of the Philippines  
Diliman, Quezon City  
<http://www.math.upd.edu.ph>  
Tel No. (+632) 920-1009



#### **WHAT TO BRING DURING THE EXAM**

Black or Blue ink pen  
Examination Permit

ID card bearing picture and signature of student.

#### **NOTE:**

The APE is a closed book examination. Answer sheets and scratch paper will be distributed at the start of the examination by the examiners. Calculators and cell phones are not allowed.

### What is the Math 20 Validation Exam?

The Validation Exam for Math 20 (Pre-Calculus) is an examination given to incoming freshmen who have not taken Pre-calculus from the STEM or equivalent strand of K-12. This examination is OPTIONAL and may be taken by Freshmen admitted to degree programs requiring Math 21.

### What is the Advanced Placement Examination (APE)?

The Advanced Placement Examination (APE) is an exam given before the start of the first semester of every academic year to any freshmen qualifier to the University of the Philippines in Diliman. The APE is OPTIONAL and may be taken by anyone who has sufficient high school background in the subjects concerned.

### Who can take the Math 21 Advanced Placement Examination (APE)?

The incoming freshmen students who have taken Pre-calculus from the STEM or equivalent strand of K-12 may take the Advanced Placement Examination (APE) for **Math 21**. Incoming freshmen students who have not taken Pre-calculus from the STEM or equivalent strand of K-12 need to pass the **Validation Examination for Math 20** in order to take the **APE for Math 21**.

### What are the advantages of taking and passing the APE?

A student who passes the **APE** shall be given credit of 4 units in **Math 21** in his / her academic program but no numerical grade.

A student who passes the APE saves matriculation money, as well as time, since, he/she need not enroll in the subject passed and may proceed to the next subject.

### When and Where to Apply

Application Period is on:

**13 – 28 May 2019** for **Validation** and

**13 May – 04 June 2019** for **APE**. Please visit the

Institute of Mathematics website: [www.math.upd.edu.ph](http://www.math.upd.edu.ph)

for **instructions** and **application**.

### What to bring when applying for APE

- UP Admission Notice
- Certification that have taken Calculus in SHS or Certification that have passed the Validation in Math 20
- Certified Photocopy of Student's High School Transcript of Records (Form 137- 7<sup>th</sup>-12<sup>th</sup> year) or
- HS Report Cards (Form 138 - 7<sup>th</sup>-12<sup>th</sup> year);
- Two recent 2x2 pictures of the student
- Valid photo identification card with signature of student.

### TOPICS FOR EXAMINATION

#### **Math 20 Precalculus: Functions and their Graphs.**

- Equations and inequalities;
- two dimensional coordinate system, graphs of equations;
- conic sections;
- functions and their graphs;
- trigonometric functions and trigonometric identities;
- inverse trigonometric functions;
- solutions of triangles;
- polar form of complex numbers.

#### **Math 21 Elementary Analysis I.**

- Limits and continuity;
- derivatives of algebraic and transcendental functions (exponential, logarithmic, trigonometric, hyperbolic, and their inverses);
- applications of derivatives;
- antiderivatives and definite integrals; Fundamental Theorem of Calculus;
- applications of the definite integral.

## WHO CAN TAKE THE ADVANCED PLACEMENT EXAMINATION (APE)?

