JÖNKÖPING UNIVERSITY

KURSPLAN
# Pathway Mathematics 1, 7,5 högskolepoäng

*Pathway Mathematics 1, 7.5 credits*

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| **Kurskod:** | PM1F17 | **Utbildningsnivå:** | Grundnivå |
| **Fastställd av:** | VD 2016-11-22 | **Utbildningsområde:** | Naturvetenskapliga området |
| **Gäller fr.o.m.:** | 2017-01-16 | **Ämnesgrupp:** | MA1 |
| **Version:** | 1 | **Fördjupning:** | GXX |
| **Diarienummer:** | JUE 2017/477-313 | | |

## Lärandemål

On completion of the course, the students will be able to

Kunskap och förståelse
1. display knowledge of polynomial functions, power functions and exponential functions, including their basic properties
2. display knowledge of the concept of geometric sum and linear optimization

Färdighet och förmåga
3. demonstrate ability to transform and simplify algebraic expressions
4. demonstrate skills of solving equations of various sorts
5. demonstrate skills of calculating derivatives and basic integrals involving the above mentioned elementary functions
6. demonstrate ability to use derivatives in order to analyze the properties of a given function and to methodically solve optimization problems

## Innehåll

The course includes the following elements:
- Basic algebra
- Geometric sums
- Studies of polynomial, power and exponential functions
- Derivatives, differentiation rules for the functions mentioned above
- Applications using the derivative to solve optimization problems
- Integrals

## Undervisningsformer

Lectures and tutorials.


Undervisningen bedrivs på engelska.

## Förkunskapskrav

High School Diploma and English Language skills corresponding to:

IELTS 5.5 or the equivalent

Mathematics 2a, 2b, 2c or the equivalent

## Examination och betyg

Kursen bedöms med betygen Underkänd eller Godkänd.

The examination consist of a written exam.

The ILOs are sssessed by the following means:

Written exam: ILO 1; ILO 2; ILO 3; ILO 4; ILO 5; ILO 6

Poängregistrering av examinationen för kursen sker enligt följande system:

| Examinationsmoment | Omfattning | Betyg |
|---|---|---|
| Examination | 7,5 hp | U/G |

## Övrigt

The course corresponds to Ma 3b from Swedish High School.

## Kurslitteratur

Ibrahim, Wazir. (2012). Pearsons Baccalaureate, Standard Level Mathematics, Developed specifically for the IB Diploma. Pearson Education