

The background of the slide is a vibrant, colorful nebula or star-forming region. It features a mix of blue, purple, and green hues, with numerous bright, multi-colored stars and glowing clouds of gas and dust. The overall scene is dynamic and visually rich, typical of astronomical imagery.

# Cosmic Origins

Lecture Course Minor Astronomy  
University of Groningen  
November 2017-January 2018



# Exam

1. Written exam (Jan. 22, 2018) 50%
2. Report on specific topic (20-25 pages) 25%
  - in groups of 2 (preferably)
  - deadline report: Mar. 1, 2017
3. Werkcollege/Tutorial assignments 25%

# Topics/Agenda I.

- **Lecture 1, November 13**

Introduction

Cosmology, the Search for the Origin of our World  
the Fundamental Questions of our Existence

- **Lecture 2, November 17**

Heavenly Rhythms: from Awe to Calendar

- **Lecture 3, November 22 (Wednesday !!!)**

Gods and Myths: Genesis of our World

- **Lecture 4, November 24, tutorial**

Tutorial: the Fundamental Cosmological Questions: society responds ...

- **Lecture 5, November 27,**

Cosmology: the philosophy of our world

- **Lecture 6, December 1**

Order in the Cosmos:  
how the Babylonians and Greeks rationalized the heavens

# Topics/Agenda II.

- **Lecture 7, December 4**

the Cosmos Mechanized: Hellenistic Cosmology

- **Lecture 8, December 8**

the Cosmos Mechanized:  
a case study: the Antikythera Mechanism

Tutorial: a Cosmic Debate between Worldviews

- **Lecture 9, December 11**

the Scientific Revolution: the Mechanization of Nature

- **Lecture 10, December 15**

Tutorial: the Fundamental Cosmological Questions: society responds II ...

- **Lecture 11, December 18**

the Dynamical Universe  
Einstein, Gravity and the Dynamics of our Universe

- **Lecture 12, December 22**

the Big Bang

# Topics/Agenda III.

- **Lecture 13, January 8**

Kant to Hubble:  
on Island Universes and the Size of our World

the Universe expands !

- **Lecture 14 January 12**

Tutorial: a Cosmic Debate between Worldviews II

- **Lecture 15, January 15**

the Hot Big Bang:  
journey to the very first moments of our Cosmos ...

- **Lecture 16, January 19**

the Cosmic Web  
the emergence of complexity in the Universe

# Literature

- Lecture Notes (ppt slides etc.)
- Cosmos,  
an illustrated history of astronomy and cosmology  
John North, 2<sup>nd</sup> ed., 2008, Univ. Chicago Press (paperback)
- Cosmology, the Science of the Universe  
E. Harrison, 2<sup>nd</sup> ed., 2000, Cambridge Univ. Press
- Conceptions of Cosmos:  
From Myths to the Accelerating Universe: A History of Cosmology  
H. Kragh, 2013, Oxford Univ. Press
- the History and Practice of Ancient Astronomy  
J. Evans, 1998, Oxford Univ. Press
- Ancient Cosmologies  
ed. C. Blacker, M. Loewe, 1975, George Allen & Unwin Ltd.