

## 226801 COSMOLOGY

(เอกภพวิทยา)

Number of Credits: 3

### Course Description :

History of Universe, structure of the Universe, active galaxies, quasars, classical cosmology theory, radiation dominated and matter-dominated universe, cosmic microwave background radiation and dark matter and dark energy.

### Course Objective :

Students will be able to describe the early universe and galaxy formation, the theoretical study by Einstein's field equation and cosmology constant to explain the structure of the Universe, and the existing of dark matter and dark energy.

| Course Contents   | No. of Lecture Hours |
|---|----------------------|
| 1. History of Universe  | 7.5                  |
| 2. Structure of the Universe                                  | 9                    |
| 2.1 Galaxy and cluster formation                              |                      |
| 2.2 Groups and clusters                                       |                      |
| 2.3 Morphology and luminosity segregation                     |                      |
| 3. Active galaxies and quasars                                | 3                    |
| 4. Classical cosmology theory                                 |                      |
| 4.1 Einstein's field equation                                 | 4                    |
| 4.2 Cosmological constant                                     | 4.5                  |
| 4.3 Distances in cosmology: redshift distribution of galaxies | 5                    |
| 5. Radiation dominated and matter-dominated Universe          | 3                    |
| 6. Cosmic microwave background radiation                      | 3                    |
| 7. Dark matter and dark energy                                | 6                    |
| <b>Total</b>  | <b>45</b>            |