

# Galactic Astronomy

Spring 2017 offered in English

Last update: February 20, 2017

Lectures: Mondays 14:20 – 17:20 PM, 501 Second General Building  
Web page: <http://orion.astr.nthu.edu.tw/galaxy/>

Instructor: Huei-Ru Vivien Chen (陳惠茹)                      Email: [hchen@phys.nthu.edu.tw](mailto:hchen@phys.nthu.edu.tw)  
Office: 513 2<sup>nd</sup> General Building (Ext. 4-2518)    Office hour: Wednesdays 10:00 – 11:00

GSI: Yu-Heng Ho (賀聿恆)    Email: [hojohan1065@gmail.com](mailto:hojohan1065@gmail.com)  
Office: 504 2<sup>nd</sup> General Building (Ext. 3-3221)    Office hour: Thursdays 19:30 – 20:30

## Textbooks:

*Galaxies and Cosmology* (2nd edition) by F. Combes, P. Boissé, A. Mazure, & A. Blanchard  
2002, Springer

## References:

*Galactic Astronomy* by J. Binney & M. Merrifield 1998, Princeton University Press  
*Galactic Dynamics* (2nd edition) by J. Binney & S. Tremain 2008, Princeton University Press  
*An Introduction to Modern Astrophysics* (2nd edition) by B. W. Carroll & D. A. Ostlie 2006, Pearson Addison-Wesley  
*Galaxy Formation* by M. S. Longair 2008, Springer (electronic version on campus)  
*Quasars and Active Galactic Nuclei* by A. K. Kembhavi & J. V. Narlikar 1999, Cambridge University Press

## Grading policy:

70% problem sets, 30% final examination. Problem sets are due 5 PM Wednesday of the following week unless otherwise instructed. No late problems will be accepted without a valid excuse approved by the instructor prior to the deadline.

## Course outline:

1. Galaxies - an overview
2. Astronomical measurements
3. Stellar evolution and star clusters
4. The Milky Way Galaxy
5. Galactic interstellar medium
6. Surface photometry & luminosity profiles of galaxies
7. Kinematics and mass distribution of galaxies
8. Elliptical galaxies
9. Spiral structure of galaxies
10. Barred galaxies
11. Interaction between galaxies
12. Quasars and active galactic nuclei
13. The cosmic distance ladder
14. The Universe on a large scale: formation and evolution of galaxies