

## Star Formation - astro857

Degree - M.Sc. in Astrophysics (PO von 2014)

|                   |  |
|-------------------|--|
| <i>Module</i>     | <b>Elective Advanced Lectures: Modern Astrophysics</b> |
| <i>Module No.</i> | astro850   |

|                   |                       |
|-------------------|-----------------------|
| <i>Course</i>     | <b>Star Formation</b> |
| <i>Course No.</i> | astro857              |

| Category | Type                   | Language | Teaching |    | Semester |
|----------|------------------------|----------|----------|----|----------|
|          |                        |          | hours    | CP |          |
| Elective | Lecture with exercises | English  | 2+1      | 4  | WT       |

**Requirements for Participation:**

**Preparation:**

**Form of Testing and Examination:** Written or oral examination

**Length of Course:** 1 semester

**Aims of the Course:** An introduction to basic concepts, modern theories, and the current observational basis of star formation.

**Contents of the Course:** The structure and evolution of the interstellar medium in relation to Star Formation: molecular excitation, interstellar chemistry; the star formation process: conditions, cloud collapse, protostellar evolution; low mass vs. massive star formation; related phenomena: jets and outflows, protostellar disks, shocks, photodissociation regions; the initial mass function, global star formation, starbursts, the star formation history of the Universe, the very first stars.

**Recommended Literature:**

Stahler, Palla: The Formation of Stars (Wiley-VCH, 2004)

Additional literature will be given during the course