## OFFICE OF ACADEMIC AFFAIRS PROGRAM APPROVAL FORM



| ■ Undergraduate □ Graduate ■  | New Program Program Change                             |  |
|---|--|--|
| College: CoS  | <sub>epartment:</sub> Atmospheric Science              |  |
| Program Title: Minor in Earth Ecos  | systems  |  |
| Program Type:   | centration   |  |
| Total Credit Hours: 21  | Effective Date: 08/01/2017                             |  |
| Is the new program or change in existing program part of an accreditation  Yes No requirement? If so, please explain.   |  |  |
|   |  |  |
|   |  |  |
|   |  |  |
| Does this course involve academic units external to the originating college? Yes No If so, deans of all colleges involved must sign this form.                      |  |  |
| Attach a detailed description of proposed progrinformation, academic justification, student need and de or deletions, facility requirements, and any other pertine. | mand, listing of courses with credit hour requirements |  |
| Digitally signed by Lawrence Carey DN: cn=Lawrence Carey, o=UAH, ou=ATS, email=chair@nsstc.uah.edu, c=US Date: 2016.10.14.09:20.21-0500'                            | Grad. Council:   |  |
| College Dean: Emanuel a. waddell fr   | Graduate Dean:   |  |
| College Curriculum Commitee: Zmanusl  | a. waddellfr.  |  |
| Undergrad Curriculum Cmte:  | Provost:   |  |
| Acknowledgements from other units:  |  |  |
| Department Chair:   | College Dean:  |  |

## **Earth System Science Minors - Justification of Proposed Program**

Attach a detailed description of proposed program to include the following: background information, academic justification, student need and demand, listing of courses with credit hour requirements or deletions, facility requirements, and any other pertinent information.

Earth System Science Minor tracks were removed from the UAH Catalog in 2013/2014. Since that time, students from other departments continue to request minors or cognates in the following areas: Atmospheric Science, Geographic Information Systems / Remote Sensing, Natural Disasters Impacts & Policy, and Earth Ecosystems. In order to service these requests, minors in these following Earth System Science areas of study are proposed. Each one of these minor tracks in ESS has been tailored to take advantage of the diverse undergraduate course offerings in the Earth System Science program. These minor tracks will utilize existing course offerings and facilities. These minor tracks complement, and have been already requested by, students studying Physics, Biological Sciences, Engineering, Computer Science, Political Science, Sociology, and World Languages and Cultures.

## **Minor in Earth Ecosystems**

| Earth Ecosystems            |   |    |
|-----------------------------|---|----|
| CRN                         | Course Name   | CR |
| Required Courses            |   |    |
| ESS 103                     | Environmental Earth Science                         | 4  |
| ESS 111                     | Weather, Climate, & Global Change                   | 4  |
| ESS/BYS 302                 | People, Plants, Environment                         | 3  |
| ESS/BYS 312                 | Principles of Ecology                               | 4  |
| <b>Elective Courses</b>     | (Choose at least 6 credit hours from Elective List) |    |
| ESS 200-400                 | Choose from below                                   | 6  |
|                             |   | 21 |
|                             |   |    |
| <b>Elective Course List</b> |   |    |
| ESS 210                     | Collapse of Civilizations                           | 3  |
| ESS 303                     | Physical & Class. Climate                           | 3  |
| ESS 307                     | Environmental Archaeology                           | 3  |
| ESS 321                     | Pollution Problems                                  | 3  |
| ESS 370                     | Remote Sensing                                      | 3  |
| ESS 407                     | Env Thrts, Pub Pol., Dec. Making                    | 3  |
| ESS 408                     | Python for GIS                                      | 3  |
| ESS 313                     | Geographic Info Systems                             | 3  |
| ESS 414                     | Geospatial Applications                             | 3  |
| ESS 415                     | Advanced GIS  | 3  |