Department of Geography and Geology
GEOGRAPHY GEOLOGY METEOROLOGY GIS

Master's Degree in Geoscience

Program Application Instructions:

Program Application Deadlines:
March 15th for Fall and October 15 for Spring admission.

Program Admission Requirements:

** GRE score, with a minimum 3.5 score on the GRE Analytical Writing component, and a 3.0 overall undergraduate GPA.
** Minimum of 18 hours of science courses at the undergraduate level, preferably in the geosciences.
** A one-to-two page statement of research goals included in the application, with a copy sent to the Department Head (david.keeling@wku.edu).
** Written evidence (email acceptance is OK) of an agreement from a graduate faculty member in the Department of Geography and Geology willing to supervise the applicant's proposed thesis research project.
** Passing grades (C or higher) in appropriate undergraduate coursework to support the thesis research program. For example, students pursuing a thesis project in GIS-related topics are required to have passed an introductory GIS course (GEOG 316/317) and a Spatial Data Analysis (GEOG 391) course at the undergraduate level - students should take preparatory courses in the summer semester before joining the Geoscience program if they have not previously taken these courses. If taken as a graduate student, a grade of "B" or better is required. Students should consult with their proposed thesis advisor on appropriate preparation coursework before full admission is granted.
** Admission applications are available online and are submitted directly to Graduate Studies at WKU. Copies of supporting documentation (statement of research goals and faculty supervisor agreements) should be sent directly to the Department of Geography and Geology – Attn: Graduate Committee.

WKU Application forms online :
https://acsapps.wku.edu/pls/prod/twbkwbis.P_GenMenu?name=wkumenu.P_AdmUnsecMnu

Graduate Assistantship Application

** Students applying for a graduate assistantship must have written support from a research faculty member in the department prior to submitting an application.
** Assistantship Applications for the academic year must be received by March 15 of the Spring Semester.
** Assistantship Funds are awarded on an academic year basis only. There are typically no funding opportunities for Spring semester only.
** Renewal Applications for Second Year GA funding should be received in the Graduate Studies office by March 15th of the Spring Semester.

M.S. Program Research Concentrations:

The M.S. Geoscience program requires a minimum of 30 semester hours, including 24 hours of coursework and a 6-hour research thesis.

Program Core (15 hours):

GEOS 500 Geoscience Research Methods	4 hours
GEOS 520 Geoscience Statistics	4 hours
GEOS 502 Field Research Methods	1 hour
GEOS 599 Research Thesis	6 hours

Program Concentration Electives** (15 hours):

At least 15 hours of graduate coursework in the specified Research Concentration approved by the thesis director and selected from the following electives:

Electives in Physical Science:

GEOS 502 Field Research Methods	3
GEOS 510 Research Topics	3
GEOS 515 Remote Sensing	4
GEOS 521 Geomorphology	3
GEOS 559 Hydrological Fluid	3
GEOS 566 Karst Geoscience	3
GEOS 595 Geoscience Practicum	3
GEOG 427G Water Resources	3
GEOG 428G Applied Groundwater	3
GEOL 4xxG Any Geology course	3

Electives in Cultural Science:

GEOS 501 Geoscience Development	3
GEOS 507 Concepts & Skills Teach	3
GEOS 510 Research Topics	3
GEOS 525 Political Geography	3
GEOS 534 Historic Preservation	3
GEOS 540 Regional Geography	3
GEOS 550 Economic Geography	3
GEOS 580 Urban Geography	3
GEOS 585 Population Geography	3
GEOS 595 Geoscience Practicum	3
GEOG 451G Geography Kentucky	3

Electives in Geographical Information Science:

GEOS 510 Research Topics	3
GEOS 515 Remote Sensing	4
GEOS 517 Spatial Databases	3
GEOS 577 Special Topics GIS	3
GEOS 584 Advanced Planning	3
GEOS 590 Experimental Design	3
GEOS 595 Geoscience Practicum	3
GEOG 417G GIS Analysis	3
GEOG 419G GIS Programming	3

Electives in Environmental Science:

GEOS 505 Biogeography	3
GEOS 506 Environment Seminar	3
GEOS 510 Research Topics	3
GEOS 515 Remote Sensing	4
GEOS 543 Env Science Concepts	3
GEOS 544 Environmental Ethics	3
GEOS 571 Quality of Life	3
GEOS 595 Geoscience Practicum	3
GEOG 474G Environment Planning	3
GEOL 415G Environmental Geology	3

Electives in Climate Science:

GEOS 510 Research Topics	3
GEOS 515 Remote Sensing	4
GEOS 522 Physical Climatology	3
GEOS 533 Synoptic Meteorology	3
GEOS 535 Dynamic Meteorology II	3
GEOS 537 Mesoscale Meteorology	3
GEOS 538 Physical Meteorology	3
GEOS 539 Atmospheric Modeling	3
GEOS 595 Geoscience Practicum	3
GEOG 424G Weather Analysis	3

**** A maximum of six hours of advisor-approved electives that are consistent with the student's Research Concentration interests may be selected from other departments or from other Geoscience concentrations.**

A suggested semester-by-semester sequence of courses is provided below – use this to schedule your 2-year program.

Welcome to the Geography and Geology Department at Western Kentucky University
M.S. Geoscience Program

Semester-by-Semester Checklist for the M.S. Geoscience Program - Effective Fall 2016

Physical Geoscience Research Focus

Course	Credits	Faculty	Course	Credit	Faculty
Fall Semester Year 1			**Spring Semester Year 1**		
GEOS 500 Research Methods	3		GEOS 500 Research Methods - Proposal	1	
GEOL 415G Env. Geology	3		GEOS 502 Field Tech	1	
GEOS 566 Karst Geoscience	3		GEOS 520 Spatial Tech	4	
			GEOS 527 Water Resources	3	
HOURS	**9**			**9**	
Fall Semester Year 2			**Spring Semester Year 2**		
GEOS 555 Climate Change	3		GEOS 599 Thesis Research	3	
GEOS 521 Geomorphology	3				
GEOS 599 Thesis Research	3				
HOURS	**9**			**3**	

- Required courses are GEOS 500 (4), 520 (4), 502 (1), and 599 (6) = 15 hours
- Elective courses are advisor-approved graduate courses in the research area = 15 hours
- GEOS 595 Teaching Practicum can be substitute in Year 1 Spring semester if the student wishes to
  teach as a GTA in the following academic year.

Cultural Geoscience Research Focus

Course	Credits	Faculty	Course	Credit	Faculty
Fall Semester Year 1			**Spring Semester Year 1**		
GEOS 500 Research Methods	3		GEOS 500 Research Methods - Proposal	1	
GEOS 580 Urban Analysis	3		GEOS 502 Field Tech	1	
GEOG 540 Regional Geog	3		GEOS 520 Spatial Tech	4	
			GEOS 525 Political Geog	3	
HOURS	**9**			**9**	
Fall Semester Year 2			**Spring Semester Year 2**		
GEOG 452G Kentucky	3		GEOS 599 Thesis Research	3	
GEOS 523 Urban GIS Apps	3				
GEOS 599 Thesis Research	3				
HOURS	**9**			**3**	

- Required courses are GEOS 500 (4), 520 (4), 502 (1), and 599 (6) = 15 hours
- Elective courses are advisor-approved graduate courses in the research area = 15 hours
- GEOS 595 Teaching Practicum can be substitute in Year 1 Spring semester if the student wishes to
  teach as a GTA in the following academic year.

Geographic Information Science Research Focus

Course	Credits	Faculty	Course	Credit	Faculty
Fall Semester Year 1			**Spring Semester Year 1**		
GEOS 500 Research Methods	3		GEOS 500 Research Methods - Proposal	1	
GEOS 575 GIS Analysis	3		GEOS 502 Field Tech	1	
GEOS 523 Urban GIS Apps	3		GEOS 520 Spatial Tech	4	
			GEOS 576 GIS Programs	3	
HOURS	**9**			**9**	
Fall Semester Year 2			**Spring Semester Year 2**		
GEOS 577 GIS Topics	3		GEOS 599 Thesis Research	3	
GEOS 515 Remote Sensing	3				
GEOS 599 Thesis Research	3				
HOURS	**9**			**3**	

- Required courses are GEOS 500 (4), 520 (4), 502 (1), and 599 (6) = 15 hours
- Elective courses are advisor-approved graduate courses in the research area = 15 hours
- GEOS 595 Teaching Practicum can be substitute in Year 1 Spring semester if the student wishes to
  teach as a GTA in the following academic year.

Environmental Geoscience Research Focus

Course	Credits	Faculty	Course	Credit	Faculty
Fall Semester Year 1			**Spring Semester Year 1**		
GEOS 500 Research Methods	3		GEOS 500 Research Methods - Proposal	1	
GEOS 566 Karst Geoscience	3		GEOS 502 Field Tech	1	
GEOL 415G Env. Geology	3		GEOS 520 Spatial Tech	4	
			GEOS 527 Water Resources	3	
HOURS	**9**			**9**	
Fall Semester Year 2			**Spring Semester Year 2**		
GEOS 555 Climate Change	3		GEOS 599 Thesis Research	3	
GEOS 571 App Nat Resrce	3				
GEOS 599 Thesis Research	3				
HOURS	**9**			**3**	

- Required courses are GEOS 500 (4), 520 (4), 502 (1), and 599 (6) = 15 hours
- Elective courses are advisor-approved graduate courses in the research area = 15 hours
- GEOS 595 Teaching Practicum can be substitute in Year 1 Spring semester if the student wishes to
  teach as GTA in the following academic year.

Climate Geoscience Research Focus

Course	Credits	Faculty	Course	Credit	Faculty
Fall Semester Year 1			**Spring Semester Year 1**		
GEOS 500 Research Methods	3		GEOS 500 Research Methods - Proposal	1	
GEOS 539 Atmos Models	3		GEOS 502 Field Tech	1	
GEOS 515 Remote Sensing	3		GEOS 520 Spatial Tech	4	
or GEOS 510 Research			GEOS 537 Mesoscale	3	
HOURS	**9**			**9**	
Fall Semester Year 2			**Spring Semester Year 2**		
GEOS 531 Dynamic I	3		GEOS 535 Dynamic II	3	
GEOS 522 Phys Clim	3		GEOS 599 Thesis Research	3	
GEOS 599 Thesis Research	3				
HOURS	**9**			**6**	

- Required courses are GEOS 500 (4), 520 (4), 502 (1), and 599 (6) = 15 hours
- Elective courses are advisor-approved graduate courses in the research area = 15 hours
- GEOS 595 Teaching Practicum can be substitute in Year 1 Spring semester if the student wishes to
  teach as GTA in the following academic year.
- Students with a B.S. Meteorology degree have more flexibility and each will have a different program of study, while those seeking NWS certification without a Meteorology B.S. will need to take all of the METR courses in sequence and will end up with more than 30 hours.

Effective for M.S. Geoscience students beginning the program in Fall 2016.
Last updated: March 2, 2016.