

PhD in Informatics and Computing (Ecological and Environmental Informatics Emphasis - T3 Option)

2019-2023

Program of Study Form Worksheet

The purpose of this worksheet is to guide you in completing the SICCS Program of Study Form

Course Number	Course Title	Credit Hours	T3 Area Addressed
I. INF Core Requirements (minimum of 42 credits required)			
A. Informatics Foundations (12 units required)			
INF 501	Research methods in informatics and computing	3	Data Analytics & Computing
INF 502	Software development methodologies	3	
INF 503	Large-scale data structures & organization	3	
INF 504	Data mining & machine learning	3	Analysis & Synthesis
1. Professional and Communication (3 units required)			
INF 601	Professional & career development	1	Communication & Collaboration
INF 602	Professional communication	1	
INF 603	Proposal & grant preparation	1	
2. Statistical Methods (9-10 units required): In addition to INF 511, INF 512, select a course from INF 626, INF626L (corequisites) or STA572			
INF 511	Modern regression I	3	Analysis & Synthesis
INF 512	Modern regression II	3	
3. Research Rotation			
INF XXX	Team-based research interdisc. Informatics I ("required" for T3)	3	Communication & Collaboration
4. Dissertation			
INF799	Dissertation	15	
II. INF Emphasis Requirements (minimum of 18 units required)			
B. Ecological and Environmental Informatics Emphasis			
1. Select Coursework from the following courses (12 units required); Topics Courses may be repeated if each repeat covers a different topic <i>(more options and specific course names and numbers to be added soon)</i>			
INF 529	Applied remote sensing	3	Analysis & Synthesis
INF 620	Topics in Remote Sensing	3	Data Collection Tools & Products
INF 621	Topics in Ecological Modeling	3	Analysis & Synthesis
INF 626/L	Applied Bayesian Modeling (lecture + lab)	4	
INF 622	Topics in environmental data analysis	3	
2. Seminars or Other Graduate-Level Coursework (6 units required)			
INF 631	Topics in software engineering	3	Data Analytics & Computing
CS 345	Principles of database systems	3	
INF 599	High Performance Computing		
CS XXX	Intro to parallel computing		
STA 578	Statistical computing	3	
INF XXX	Mechanistic ecological modelling across scales		Analysis & Synthesis
BIO 523	Meta-analysis in ecology & evolution	3	
FOR 606	Applied ecological data analysis	3	
INF 599	Special Topics: Disease modeling	3	
INF XXX	Earth Observation Research and Applications for the Next Decade	3	
STA 578	Statistical computing	3	
EE 443	Pattern recognition	3	
INF 626	Applied Bayesian Modeling	3	
INF 626L	Applied Bayesian Modeling Lab	1	

BIO 577	Concepts in ecology	3	Terrestrial Ecosystem Ecology
INF XXX	Infor. for community food energy & water systems	3	
BIO 479	Ecosystems & climate change	3	
FOR 550	Forest tree ecophysiology	3	
ENV 540	Conservation biology	3	
BIO 686	Community ecology	2	
FOR 544	Landscape ecology	3	
BIO 578	Microbial ecology	3	
BIO 663	Biogeography	3	
BIO 573	Field ecology	4	
BIO 570	Plant ecology	3	
BIO 526	Plants & climate		
FOR 507	Soil ecology	4	
ENV 540L	Conservation biology Lab	1	
INF XXX	Team-based research interdisc. Informatics II ("required" for T3)	3	Communication & Collaboration
BIO XXX	Research communication in ecosystem science (Ecosystem seminar)		
COM 542	Ethics & strategies in science communication	1	
ENV 520	Collaboration in environmental management	1	
COM 540	Introduction to science communication	3	
ENV 555	Environmental science-policy interface	1	
BIO XXX	Visualization of scientific discovery		
INF 604	Writing scientific papers	1	
ENG XXX	Climate science writing		
COM 545	Writing science	3	Data Collection, Tools, & Products
INF 550	Survey in ecoinformatics data ("required" for T3)	3	
INF XXX	Mechanistic ecological modelling across scales		
INF XXX	Informatics for smart & sustainable cities		
INF 620	Topics in Remote Sensing	3	
INF 529	Applied remote sensing	3	

Other		
INF requirement	INF Comprehensive Exam	4th term
	INF Advancement to Candidacy Exam	6th term
	Graduate Student Seminar	
	Dissertation	
T3-specific	Collaborative Internship Project (optional)	
	Annual T3 Retreat	

Credit hours	T3 Focus Areas	Fulfills INF requirement?
9 Core; 3 Elective	Data Analytics & Computing	Y
9 Core; 3 Elective	Analysis & Synthesis	Y
3 Core; 6 Elective	Terrestrial Ecosystem Ecology	Y
9 Core; 3 Elective	Communication & Collaboration	Y
3 Core; XX Elective	Data Collection Tools & Products	Y
	Other Requirements	Y