

# Informatics Degree Requirements Course Planning Form (students entering Fall '23 or after)

## Informatics Core Requirements

All INFO majors must complete the core requirements, regardless of concentration

INFO 101*	INFO 150	STATS 240**	CICS 110		
	INFO 203 F	INFO 248 S	CICS 160	CICS 210	
			CICS 305 JYW	CS 325	IE Integ. Exp.

\***INFO 101** may also be satisfied by a score of 4 or higher on the AP CSP exam

\*\***STAT 240** Alternates: CS 240, OIM 240, PSYCH 240, SOCIOL 212 or RES-ECON 212

**JYW** Alternates: Any major's certified JYW course can be substituted for 305. JYW must be satisfied at UMass Amherst. Double majors with INFO as their secondary major must take the JYW for their primary major. **IE** courses include INFO 490PI and CS 326.

## Choose a Concentration

### Data Science Concentration

Pick One from these Three Options:

1. STAT501 Methods of Applied Stats
2. STAT515 Statistics I
3. OIM350: Business Intelligence and Analytics

Also Complete:

CS 345: Practical Applications of Data Management

**AND**

INFO 348: Predictive Analytics with Python

### Health and Life Sciences Concentration

Pick Three from these Four Options:

1. INFO 324 Intro to Clinical Health Informatics
2. BIO 379H: Genomics and Bioinformatics OR BIOL 597GE Evolutionary Genomics & Bioinformatics (Req Bio 152)
3. PUBHLTH 490Z: Statistical Modeling for Health Data Science OR PUBHLTH 460: Telling Stories with Data
4. CS 328: Mobile health sensing and analytics

**AND** Complete one of the following ethics classes: PHIL 160: Intro to Ethics; PHIL 164: Medical Ethics, CS 508: Ethical Considerations in CS (req CICS 305); PUBHLTH 497: Research Ethics; HISTORY 264 History of HealthCare & Medicine in the U.S.

**Electives – Choose 6.** Proposed electives must be approved by the program via <https://tinyurl.com/InfoElective>

All electives count for both concentrations; electives well suited to Health and Life Sciences noted with HLS

**Elective Options** (at least 4 must be taken at UMass Amherst; See advisor for seats in underlined courses.)

BIOL 379H: Genomics and Bioinformatics (HLS)

BIOL 383H: Gene and Genome Analysis (HLS)

BIOL 497D; BIOL 497G (HLS)

BIOL 597GE Evolutionary Genomics & Bioinformatics (HLS)

BIOSTATS 683; BIOSTATS 690T; BIOSTATS 690TO (HLS)

COM 408: Survey of Digital Behavioral Data

COM 540: Internet Governance & Information Policy

COMPSCI 326: Web Programming

COMPSCI 328: Mobile health sensing and analytics (HLS)

COMPSCI 365: Digital Forensics (requires CS 230)

COMPSCI 383: Artificial Intelligence (requires STAT 515)

COMPSCI 420: Software Entrepreneurship

COMPSCI 490STA: Scalable Web Systems

COMPSCI 490U: Introduction to User Experience Research

COMPSCI 508: Ethical Considerations in CS (req CICS 305)

COMPSCI 571: Data Visualization and Exploration

ECON 309: Game Theory

ECON 337: Economics in the age of Big Data

ECON 452: Econometrics

ENGLISH 379, 380, 381, 382: (only one may count)

{ENGLISH 391C: Web Design} (email instructor to join waiting list)

ENGLISH 491DS: Seminar- Data Science for the Humanities

GEOGRAPH 493W/ NRC 597GW: Web GIS

GEOGRAPH 497A : Geographic Computation

INFO 324: Intro to Clinical Health Informatics (HLS)

INFO 348: Predictive Analytics with Python

INFO 490C: Intro to social and cultural analytics

MARKET 413: Social Media and Marketing Analytics

MARKET 455: Internet Marketing

MI-ENG 397DH: Fundamentals of Data Visualization

NRC 585: Intro to Geographic Information Systems

{OIM 350: Business Intelligence and Analytics}

OIM 454: Advanced Business Analytics

PUBHLTH460; PUBHLTH 490KR; PUBHLTH 490Z; PUBHLTH497 (HLS all)

SOC 313: Survey Design and Analysis (HLS)

STAT 501; STAT 515; STAT 516; STAT 525; STAT 526

- ✦ An overall GPA of 2.0 is required for major courses;
- ✦ No class counted for the major may be taken pass/fail;
- ✦ No one course can be used to satisfy multiple INFO major requirements;
- ✦ Informatics majors must complete a total of 60 science credits;
- ✦ Informatics majors **may** be CS minors but **may NOT** double major in CS
- ✦ Two of (INFO 248, CS 345, DS Elective, STATS 240) must be taken at UMass Amherst.
- ✦ Posted pre-requisites waived for courses in {} only. For all other courses, posted pre-requisites apply.