

10/18/2024

**BS Tracking Form for Informatics Major Requirements (for students starting fall 2021 -summer 2023)**

**Informatics Core Requirements : Students must complete all Core Requirements**

<p><b>INFO 101</b> <i>Intro to Info</i></p> <p>Semester: _____ Grade: _____</p>	<p><b>INFO 150</b> <i>Math Foundations</i></p> <p>Semester: _____ Grade: _____</p>	<p><b>INFO 203</b> <i>Networked World</i></p> <p>Semester: _____ Grade: _____</p>
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<p><b>COMPSCI 121</b> <b>(or INFO 190S/CICS 110)</b> <i>Problem Solving with Computers</i></p> <p>Semester: _____ Grade: _____</p>	<p><b>COMPSCI 186</b> <b>(or INFO 190T/CICS 160)</b> <i>Using Data Structures</i></p> <p>Semester: _____ Grade: _____</p>
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<p><b>STATS 240</b> <i>Intro to Stats</i> (or alternate: CS 240, OIM 240, PSYCH 240, SOCIOL 212, RES-ECON 212)</p> <p>Semester: _____ Grade: _____</p>
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<p><b>INFO 248</b> <i>Intro to Data Science</i></p> <p>Semester: _____ Grade: _____</p>
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<p><b>CS 325</b> <i>Intro Human Comp Interaction</i></p> <p>Semester: _____ Grade: _____</p>
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- Overall GPA of 2.0 is required for major courses
- Pre-reqs must be completed with a grade of C or better
- No class counted for the major may be taken pass/fail
- Informatics majors must complete 60 units within CICS/CNS
- 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
- At least 4 of the 6 electives must be taken at UMass Amherst
- No single course can fulfill two different major requirements. For example, INFO 348 cannot fulfill data science concentration requirement AND count as an elective requirement for DS concentration
- Students can propose an elective, but it must be approved by the program

**Integrative Exp**

**Primary Majors:**  
**CS 326\*** (pre-reqs are CS 220/CS 230)  
**Or INFO 490PI\*** pre-reqs: INFO 248 (or COMPSCI 240) and CICS 210 (or COMPSCI 186 or COMPSCI 187)  
**OR Secondary Majors: IE in Primary Major**

Semester: \_\_\_\_\_ Grade: \_\_\_\_\_

**Junior Year Writing**

**Primary Majors: CICS 305 (Pre-req INFO 248)**  
**Secondary Majors: JYW in Primary major**

Semester: \_\_\_\_\_  
Grade: \_\_\_\_\_

**Concentration Requirements:**

**Choose Data Science OR Health & Life Sciences:**

**Data Science**

<p><b>INFO 348**</b></p> <p>Semester: _____ Grade: _____</p>
+
<p><b>CS 345**</b></p> <p>Semester: _____ Grade: _____</p>
+
<p><b>One DS Elective:</b></p> <ul style="list-style-type: none"> <li>○ STATS 315/515** OR</li> <li>○ STATS 501 OR</li> <li>○ OIM 350**</li> </ul> <p>Semester: _____ Grade: _____</p>

**Health and Life Sciences**

<p><b>Pick Three:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;"> <p><b>INFO 324**</b></p> <p>Semester: _____ Grade: _____</p> </td> </tr> <tr> <td style="padding: 5px;"> <p><b>CS 328**</b></p> <p>Semester: _____ Grade: _____</p> </td> </tr> <tr> <td style="padding: 5px;"> <p><b>PUBHLTH 490Z** OR PUBHLTH 460**</b></p> <p>Semester: _____ Grade: _____</p> </td> </tr> <tr> <td style="padding: 5px;"> <p><b>INFO 390C** OR BIO 379H** OR BIOL 476 (formerly 597GE)**</b></p> <p>Semester: _____ Grade: _____</p> </td> </tr> </table>	<p><b>INFO 324**</b></p> <p>Semester: _____ Grade: _____</p>	<p><b>CS 328**</b></p> <p>Semester: _____ Grade: _____</p>	<p><b>PUBHLTH 490Z** OR PUBHLTH 460**</b></p> <p>Semester: _____ Grade: _____</p>	<p><b>INFO 390C** OR BIO 379H** OR BIOL 476 (formerly 597GE)**</b></p> <p>Semester: _____ Grade: _____</p>	<p><b>One Ethics course:</b></p> <p>PHIL 160 OR PHIL 164 OR CS 508** OR PUBHLTH 497** OR HISTORY 264</p> <p>Semester: _____ Grade: _____</p>
<p><b>INFO 324**</b></p> <p>Semester: _____ Grade: _____</p>					
<p><b>CS 328**</b></p> <p>Semester: _____ Grade: _____</p>					
<p><b>PUBHLTH 490Z** OR PUBHLTH 460**</b></p> <p>Semester: _____ Grade: _____</p>					
<p><b>INFO 390C** OR BIO 379H** OR BIOL 476 (formerly 597GE)**</b></p> <p>Semester: _____ Grade: _____</p>					

**Informatics Electives (all students choose 6):**

*Please see reverse side for elective options*

<p><b>Course:</b> _____</p> <p>Semester: _____ Grade: _____</p> <p>-----</p> <p><i>Elective pre-reqs (if any):</i></p>	<p><b>Course:</b> _____</p> <p>Semester: _____ Grade: _____</p> <p>-----</p> <p><i>Elective pre-reqs (if any):</i></p>	<p><b>Course:</b> _____</p> <p>Semester: _____ Grade: _____</p> <p>-----</p> <p><i>Elective pre-reqs (if any):</i></p>
<p><b>Course:</b> _____</p> <p>Semester: _____ Grade: _____</p> <p>-----</p> <p><i>Elective pre-reqs (if any):</i></p>	<p><b>Course:</b> _____</p> <p>Semester: _____ Grade: _____</p> <p>-----</p> <p><i>Elective pre-reqs (if any):</i></p>	<p><b>Course:</b> _____</p> <p>Semester: _____ Grade: _____</p> <p>-----</p> <p><i>Elective pre-reqs (if any):</i></p>

\*\*Check SPIRE for most updated pre-requisite information

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BS Tracking Form for Informatics Major Requirements (for students starting fall 2021 -summer 2023)

## **Pre-Approved Informatics Electives (choose 6):**

- All electives count for both concentrations; electives well suited to Health and Life Sciences noted with HLS.
- Posted pre-reqs are waived for informatics majors ONLY for those elective courses that are underlined, although most of these classes do require "Junior" status. For all other courses, posted pre-requisites as listed in Spire apply.

BIOL 379H: Genomics and Bioinformatics (HLS)  
BIOL 383H: Gene and Genome Analysis (HLS)  
BIOL 478: Human Genome Analysis (formerly BIOL 497G) (HLS)  
BIOL 479: Genomics and Data Science (formerly BIOL 497D) (HLS)  
BIOL 597GE: Evolutionary Genomics & Bioinformatics (HLS)  
BIOSTATS 535: Data Handling and Analysis Using SAS  
BIOSTATS 683: Intro to Causal Inference in a Big Data World (HLS)  
BIOSTATS 690T: Applied Statistical Genetics (HLS)  
BIOSTATS 690TO: Topics in Biostatistics and Data Science (HLS)  
CLASSICS 390STA: Visualizing Archaeological Data  
CLASSICS 396A (IS): Poggio Civiate Field School  
COMM 408: Survey of Digital Behavioral Data (formerly COMM 497DB)  
COMM 540: Internet Gov & Information Policy (formerly COMM 497GB)  
COMPSCI 320: Software Engineering  
COMPSCI 326: Web Programming  
COMPSCI 328: Mobile Health Sensing and Analytics (HLS)  
COMPSCI 365: Digital Forensics  
COMPSCI 383: Artificial Intelligence  
COMPSCI 389: Intro to Machine Learning  
COMPSCI 420: Software Entrepreneurship  
COMPSCI 426: Scalable Web Systems (formerly COMPSCI 490STA/497S)  
COMPSCI 490U: Introduction to User Experience Research  
COMPSCI 508: Ethical Considerations in Computing (req CICS 305)  
COMPSCI 571: Data Visualization and Exploration  
ECE 579: Math Tools for Data Science & Machine Learning  
ECON 309: Game Theory  
ECON 337: Economics in the Age of Big Data  
ECON 452: Econometrics  
ENGLISH 379: Professional Writing course  
ENGLISH 391C: Web Design (email instructor to join waiting list)  
ENGLISH 491DS: Data Science for the Humanities (Seminar)  
GEOGRAPH 493W / NRC 588 (formerly 597GW): Web GIS (Seminar)  
GEOGRAPH 484: Geographic Computation (formerly 497A)

INFO 324: Intro to Clinical Health Informatics (HLS)  
INFO 348: Data Analytics with Python  
INFO 390C: Introduction to Computational Biology and Bioinformatics  
INFO 490C: Intro to Social and Cultural Analytics  
INFO 490PI: Personal Health Informatics  
LEGAL 342: Machine Bias and Law  
MARKET 413: Social Media and Marketing Analytics  
MARKET 455: Internet Marketing  
MATH 456: Mathematical Modeling  
MATH 551: Intro to Scientific Computing  
MATH 605: Probability Theory I  
MI-ENG 272: Fundamentals of Data Visualization (formerly 397DH)  
NRC 585: Intro to Geographic Information Systems  
OIM 350: Business Intelligence and Analytics  
OIM 454: Advanced Business Analytics  
PUBHLTH 413: Intro to Epi Mgmt & Analysis (formerly 490KR) (HLS)  
PUBHLTH 460: Telling Stories with Data: Stats, Modeling, & Visualization (HLS)  
PUBHLTH 490Z: Statistical Modeling for Health Data Science (HLS)  
PUBHLTH 497R: Research Ethics (formerly PUBHLTH 497) (HLS)  
SOCIOLOG 313: Survey Design and Analysis (HLS)  
SOCIOLOG 351: Social Network Analysis  
STATISTC 315: Statistics I (formerly STATISTC 515)  
STATISTC 501: Meth Applied Stats  
STATISTC 516: Statistics II  
STATISTC 525: Regression & Analysis of Variance  
STATISTC 526: Design of Experiment