**Computer Science (Software Engineering and Technical Applications) Curriculum, Outcomes and Assessment Diagram (May 2017)**

| Institutional Learning Outcome | PLNU Mission Component | Department Learning Outcomes | Program Learning Outcomes | Introduced | Reinforced | Mastery | Measure |
|---|---|---|---|---|---|---|---|
| *Learning: Informed by our Christian Faith:* Members of the PLNU community will display openness to and mastery of foundational knowledge and perspectives; think critically, analytically, and creatively; and communicate effectively. | *….minds are engaged and challenged*<br><br>(Teach) | Graduates will have a coherent and broad based knowledge of their discipline. | Students will be able to write correct and robust software. | CSC143 | CSC154<br>CSC254<br>CSC394<br>CSC302*<br>CSC311*<br>ISS414* | CSC323<br>CSC493 | CSC 254 Signature Assignment (A) |
| | | | Students will use the theory of algorithms and computation to solve problems. | MTH164<br>MTH174 | CSC254<br>MTH233*<br>MTH274*<br>MTH343 | CSC394 | ETS: Structures and algorithms subscore (A) |
| | | | Students will analyze the interaction between hardware and software. | CSC143 | CSC154<br>CSC254<br>CSC314<br>CSC374<br>ISS414* | CSC394<br>CSC454<br>CSC493 | ETS: Computer Organization, Architecture and Operating Systems subscore (A)<br><br>CSC314 Signature Assignment (A) |
| *Growing: In a Christian Faith Community:* Members of the PLNU community will demonstrate God-inspired development and understanding self and others and live hospitably within complex professional, environmental and social contexts. | *….character is modeled and formed*<br><br>(Shape) | Students will develop characteristics necessary to be effective members of the communities where they work and live.<br><br>(Shape) | Students will be able to apply their technical knowledge and critical thinking to solve problems. (CC: CT) | CSC143<br>MTH203 or MTH383<br>MTH233*<br>MTH392* | CSC154<br>CSC254<br>CSC314<br>CSC323<br>CSC412<br>CSC302*<br>CSC311*<br>MTH373*<br>ISS342<br>ISS414* | CSC481<br>CSC493<br>ISS414*<br>ISS472^<br>HON498 & HON499^<br>CSC496 & CSC497^<br>CSC498 & CSC499^<br>CSC481 | CSC493 Signature Assignment (2)<br><br>ETS Proficiency Profile: Critical Thinking (A) |
| | | | Students will be able to speak about their work with precision, clarity and organization. (CC: OC) | COM100<br>CSC154<br>CSC254 | CSC323<br>ISS342<br>BUS313 | CSC481<br>CSC493<br>ISS472^<br>HON498 & HON499^<br>CSC496 & CSC497^<br>CSC498 & CSC499^ | Senior Seminar: Oral presentation evaluated by a jury using a rubric (A). |
| | | | Students will be able to write about their work with precision, clarity and organization. (CC: WC) | WRI110<br>CSC154<br>CSC254 | CSC323<br>ISS342<br>BUS313 | CSC481<br>CSC493<br>ISS472^<br>HON498 & HON499^<br>CSC496 & CSC497^<br>CSC498 & CSC499^ | Senior Seminar: Written summary evaluated by a jury using a rubric (A).<br><br>ETS Proficiency Profile: Writing (A) |
| | | | Students will be able to identify, locate, evaluate, and effectively and responsibly use and cite information for the task at hand. (CC: IL) | WRI110 | CSC323<br>ISS342 | CSC481<br>HON498 & HON499^<br>CSC496 & CSC497^<br>CSC498 & CSC499^ | Senior Seminar: Written summary evaluated by a jury using the information literacy portion of the departmental writing rubric (A). |
| | | | Students will collaborate effectively in teams. | CSC143<br>CSC154<br>MTH164 | CSC254<br>CSC314<br>CSC454<br>ISS342 | CSC323<br>CSC493<br>CSC496 & CSC497^<br>ISS414* | CSC323 Group assignment (2)<br>Group rubric/questionnaire |
| | | | Students will be able to understand and create arguments supported by quantitative evidence. (CC: QR) | CSC143<br>MTH203 or MTH383 | CSC154<br>CSC254<br>CSC412<br>ISS414*<br>MTH373*<br>MTH233*<br>MTH392* | CSC493<br>ISS414*<br>ISS472^<br>HON498 & HON499^<br>CSC496 & CSC497^<br>CSC498 & CSC499^<br>CSC481 | ETS Proficiency Profile: Mathematics (A) |

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| *Serving: In a Context of Christian Faith:* Members of the PLNU community will engage in actions that reflect Christian discipleship in a context of communal service and collective responsibility, serve both locally and globally in a vocational and social setting. | *….service becomes an expression of faith* | We believe that work is an act of service. Graduates will be prepared to serve a complex world through their technical and professional abilities. (Send) | Graduates will be prepared for careers that use computer science in business, industry, government and the non-profit sector; and graduate study in fields related to computer science. | This occurs throughout the curriculum in every class and is the overall goal of the program. | | | Overall ETS Score (A) Alumni survey (5) |

A – means that the measure is done annually (once it has been phased into the cycle)
2 – means that the measure done every two years (once it has been phased into the cycle)
5 – means that the measure done every five years (once it has been phased into the cycle)
* - means and elective
^ - means that the student must choose one in the list