

Mathematics Curriculum, Outcomes and Assessment Diagram (May 31, 2014)

Institutional Learning Outcome	PLNU Mission Component	Department Learning Outcomes	Program Learning Outcomes	Introduced	Reinforced	Mastery	Measure	Global Measure
<i>Learning: Informed by our Christian Faith:</i> Members of the PLNU community will display openness to and mastery of foundational knowledge and perspectives; think critically, analytically, and creatively; and communicate effectively.	<i>....minds are engaged and challenged</i>	Graduates will have a coherent and broad based knowledge of their discipline. (Learning/Teach)	Students will be able to demonstrate facility with analytical concepts.	MTH164 MTH174	MTH274 MTH352 MTH402* MTH471*	MTH413** MTH424	ETS: Calculus subscore (A)	TEACH: ETS overall score (A) Alumni Survey (5)
			Students will be able to write proofs.	MTH242	MTH343** MTH352 MTH402*	MTH424 MTH444	MTH242 (A), MTH424 (2) and MTH444 (2) Signature Assignments	
			Students will be able to demonstrate facility with algebraic structures.	MTH164 MTH174 MTH274	MTH233 MTH242 MTH352 MTH343**	MTH444	ETS: Algebra subscore (A)	
<i>Growing: In a Christian Faith Community:</i> 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.	<i>....character is modeled and formed</i>	Students will develop characteristics necessary to be effective members of the communities where they work and live. (Growing/Shape)	Students will be able to apply their mathematical knowledge to solve problems.	MTH233 MTH274 PHY241	MTH382 MTH343** MTH402* MTH471* MTH492*	MTH333 MTH373** MTH392* MTH413** HON498 & HON499^ MTH496 & MTH497^ MTH498 & MTH499^ MTH481	ETS: Applied subscore (A)	
			Students will be able to use technology to solve problems.	MTH131 MTH164 MTH174 MTH274 CSC143	MTH333 CSC153 CSC254 MTH492*	MTH382 MTH373** HON498 & HON499^ MTH496 & MTH497^ MTH498 & MTH499^	MTH382 Signature Assignment (2)	
			Students will be able to speak about their work with precision, clarity and organization	COM100 MTH164 MTH174 MTH274	MTH233 MTH242 MTH352 MTH373** MTH471	MTH424 MTH444 MTH481 MTH492 HON498 & HON499^ MTH496 & MTH497^ MTH498 & MTH499^	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	WRI110 MTH164 MTH174 MTH274	MTH233 MTH242 MTH352 MTH373**	MTH424 MTH444 MTH481 MTH492 HON498 & HON499^ MTH496 & MTH497^ MTH498 & MTH499^	Senior Seminar: Written summary evaluated by a jury using a rubric (A).	
			Students will collaborate effectively in teams.	MTH164 MTH174 MTH274 CSC143	MTH233 MTH242 MTH352 MTH492 CSC153	MTH382 MTH424 MTH444 MTH481 MTH492 HON498 & HON499^ MTH496 & MTH497^ MTH498 & MTH499^	MTH352 Group assignment (2) Group rubric/questionnaire	
			Students will be able to identify, locate, evaluate, and effectively and responsibly use and cite information for the task at hand (Information Literacy).	WRI110 MTH164 MTH174 MTH274	MTH233 MTH242 MTH352 MTH373**	MTH481 HON498 & HON499^ CSC496 & CSC497^ CSC498 & CSC499^	Senior Seminar: Written summary evaluated by a jury using an information literacy rubric (A).	
			Students will be able to gather relevant information, examine information and form a conclusion based on that information (Critical Thinking).	WRI110 MTH164 MTH174 MTH274	MTH233 MTH242 MTH352 MTH373**	MTH481 HON498 & HON499^ CSC496 & CSC497^ CSC498 & CSC499^	Senior Seminar: Written summary evaluated by a jury using a critical thinking rubric (A).	
			Students will be able to understand and create arguments supported by quantitative evidence, and they can clearly communicate those arguments in a variety of formats (Quantitative Reasoning).	MTH164 MTH174 CSC143 MTH392*	MTH274 MTH233 CSC153 CSC254 MTH382 MTH373*	MTH424 MTH444 HON498 & HON499^ CSC496 & CSC497^ CSC498 & CSC499^ MTH481	Senior Seminar: Quantitative activity evaluated by a jury using a rubric (A). <i>Signature assignment to be developed.</i>	
						<i>Note this happens throughout all classes in a mathematics program.</i>		

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<i>Serving: In a Context of Christian Faith:</i> 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.	<i>....service becomes an expression of faith</i>	We believe that work is an act of service. Graduates will be prepared to serve a complex world through their technical and professional abilities. (Serving/Send)	Graduates will be prepared for: <ul style="list-style-type: none"> careers that use mathematics in business, industry, government and the non-profit sector ; graduate study in fields related to mathematics; and teaching mathematics and computer science at the secondary level. 			This occurs throughout the curriculum in every class.	Overall ETS Score (A) Alumni survey (5) Fieldwork evaluations for prospective teachers (A)	

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 students must choose two of the three of these

* - means elective

^ - means students must choose one of these